



2015 **AHFE** International

6th International Conference on Applied Human Factors and Ergonomics

jointly with

1st International Conference on Human Factors in Cybersecurity

1st International Conference on Human Factors and Systems Interaction

1st International Conference on Human Factors and Unmanned Systems

1st International Conference on Human Factors in Sports and Outdoor Recreation

1st International Conference on Human Factors in the Oil, Gas, and Nuclear Industries

1st International Co-Evolve Conference on Human Factors, Business Management and Society

1st International Conference on Human Factors of Robots and Exoskeletons: Rehabilitation and Assistance

1st International Symposium on Human Factors in Training, Education, and Learning Sciences

2nd International IBM Symposium on Human Factors, Software, and Systems Engineering

2nd International Conference on Safety Management and Human Factors

2nd International Conference on Human Factors and Sustainable Infrastructure

3rd International Conference on The Human Side of Service Engineering

3rd International Conference on Affective and Pleasurable Design

3rd International Conference on Human Factors in Transportation

3rd International Conference on Ergonomics In Design

4th International Conference on Cross-Cultural Decision Making

4th International Conference on Applied Digital Human Modeling

4th International Conference on Human Factors and Ergonomics in Healthcare

16th International Conference on The Human Aspects of Advanced Manufacturing

(HAAMAHA): Managing Enterprise of the Future

Final Program

July 26-30, 2015

Caesars Palace

Las Vegas, USA

Under the auspices of 25 distinguished
international Boards consisting of 583
members from 43 countries

www.ahfe2015.org

Opening Plenary Session and Keynote Address

Date: Monday, July 27, 2015 • 17:00 - 18:30

Room: Forum 25

Chair: Dylan Schmorrow

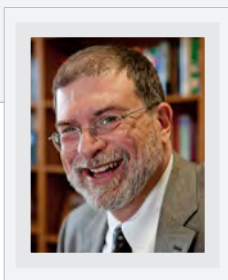
INTRODUCTORY REMARKS

Waldemar Karwowski - General Conference Chair

HOW DO TECHNOLOGIES CHANGE WORK AND ORGANIZATIONS

Dr. Stephen R. Barley

Richard Weiland Professor
Co-Director, Center for Work Technology and
Organization, Stanford University, USA



About the speaker

Stephen R. Barley is the Richard W. Weiland Professor of Management Science and Engineering, the associate chair of Stanford's Department of Management Science and Engineering, and the Co-Director of the Center for Work, Technology and Organization at Stanford's School of Engineering. He holds an AB. in English from the College of William and Mary, an M.Ed. from the Ohio State University, and a Ph.D. in Organization Studies from the Massachusetts Institute of Technology. Barley has written numerous articles and as well as several books on the impact of new technologies on work, the organization of technical work and organizational culture. He was editor of the Administrative Science Quarterly from 1993 to 1997 and the founding editor of the Stanford Social Innovation Review. He has received the Academy of Management's New Concept Award and was named Distinguished Scholar by the Academy of Management's Organization and Management Theory Division in 2006, the Organization Communication and Information Systems Division in 2010 and the Critical Management Studies Division in 2010. Barley is a fellow at Center for Advanced Study in the Behavioral Sciences and a Fellow of the Academy of Management. In 2006 the Academy of Management Journal named Barley as the author of the largest number of "interesting" articles in the field of management studies.

CONFERENCE RECEPTION/BANQUET:

MONDAY, JULY 27 • 19:00

MILANO BALLROOM

(PROMENADE LEVEL - CAESARS PALACE CONFERENCE CENTER)

AHFE 2015 CONFERENCE BADGE REQUIRED FOR ENTRANCE
TICKET REQUIRED FOR PRE-PAID "RECEPTION GUEST"

Dress is business casual

Tutorials

PRE-CONFERENCE TUTORIALS

All Tutorials will be held on Sunday, July 26 and Monday, July 27, 2015
Caesars Palace Conference Center Forum Ballroom (Pool Level)

SUNDAY, JULY 26

Refreshments - Break room: Forum 3

8:00 - 12:00

- **An Introduction to Cognitive Work Analysis**
Presenter: Neville Stanton
Room: Forum 1
- **Human Factors and Ergonomics in Flexible Manufacturing Systems Design**
Presenters: Christopher Schlick and Jennifer Bützler
Room: Forum 2

13:00 - 17:00

- **Measurement of Individual and Team States**
Presenters: Robert McCormack, Kara Orvis and Kevin Durkee
Room: Forum 1

MONDAY, JULY 27

Refreshments - Break room: Forum 7

8:00 - 12:00

- **Aviation Human Factors**
Presenter: Steven Landry
Room: Forum 1
- **Human Factors and Human Systems Integration for Vehicle Assistance and Automation: Past, Presence and Future**
Presenters: Frank Flemisch and Marcel Baltzer
Room: Forum 2
- **Cognitive Neuroscience for the Human Factors Practitioner**
Presenter: Chris Forsythe
Room: Forum 3
- **Designing the User Experience 101**
Presenter: Terence Andre
Room: Forum 6

13:00 - 17:00

- **Practitioners Perspective and Recommendations on Achieving Effective Human-Systems Integration**
Presenter: Dylan Schmorrow
Room: Forum 1
- **Predictive Use Error Analysis During Product Development**
Presenter: Dean Hooper
Room: Forum 2

Conference at a Glance

**AHFE 2015 Registration Desk located at Caesars Palace
Conference Center Forum Ballroom (Pool Level)**

REGISTRATION DESK OPEN:

Saturday, July 25 15:00 - 19:00
 Sunday, July 26 7:00 - 19:00
 Monday, July 27 7:00 - 18:00
 Tuesday, July 28 7:30 - 18:00
 Wednesday, July 29 7:30 - 18:00
 Thursday, July 30 7:30 - 18:00

ACRONYM	TRACK
APD	Affective and Pleasurable Design
ADHM	Applied Digital Human Modeling
HFBM	Co-Evolve Conference on Human Factors, Business Management and Society
CCDM	Cross-Cultural Decision Making
ED	Ergonomics in Design
EMUSP	Ergonomics Modeling, Usability & Special Populations
HFSI	Human Factors and Sustainable Infrastructure
HFSysI	Human Factors and System Interactions
HFSOR	Human Factors in Sports and Outdoor Recreation
HSSE	Human Side of Service Engineering
MFG	Human Aspects of Advanced Manufacturing (HAAMAHA)
SMHF	Safety Management and Human Factors
S&O	Social & Occupational Ergonomics
HFTELS	Symposium on Human Factors in Training, Education, and Learning Sciences
AVI	Human Factors in Transportation - Aviation
MAR	Human Factors in Transportation - Maritime
R&R	Human Factors in Transportation - Road & Rail
HC	Human Factors and Ergonomics in Healthcare
C&N	Cognitive and Neuroergonomics
HFOGN	Human Factors in the Oil, Gas, and Nuclear Industries
RERA	Human Factors of Robots and Exoskeletons: Rehabilitation and Assistance
PEHF	Physical Ergonomics & Human Factors
HFSSE	IBM Symposium on Human Factors, Software, and Systems Engineering
HFUS	Human Factors and Unmanned Systems
HFC	Human Factors in Cybersecurity

SCIENTIFIC ADVISORY BOARD (SAB) MEETING TUESDAY, JULY 28, FROM 13:00-13:30 (SIMULTANEOUS)	ROOM	CONFERENCE/TRACK
	Forum 1	Safety Management and Human Factors
	Forum 2	The Human Side of Service Engineering
	Forum 3	Human Factors in Transportation: Aviation
	Forum 4	Cross-Cultural Decision Making
	Forum 5	Applied Digital Human Modeling
	Forum 6	The Human Aspects of Advanced Manufacturing
	Forum 7	Human Factors and System Interactions

ID	SESSION TITLE	TRACK	ROOM
Session Time: 8:00 - 10:00			
1	Plenary: Cross-Cultural Decision-Making	CCDM	Forum 4
2	Plenary: The Human Side of Service Engineering	HSSE	Forum 11
3	Product Language, Representation and Tangible Branding	APD	Forum 1
4	Pilot and Controller Performance in Potential NextGen Environments	AVI	Forum 2
5	Decision Making in Critical Infrastructures	C&N	Forum 3
6	Design and Human Behavior	ED	Forum 6
7	Usability Design	ED	Forum 5
8	Human Factors in Surgery and Radiotherapy	HC	Forum 8
9	Teamwork and Situation Awareness in Maritime Transport	MAR	Forum 9
10	Ergonomic Design of Future Production Systems I	MFG	Forum 10
11	Occupational Ergonomics	PEHF	Forum 13
12	Human Factors of Automated Driving: Light Vehicle I	R&R	Forum 14
13	Individual Differences	R&R	Forum 7
14	Social and Occupational Systems Engineering I	S&O	Forum 15
15	Ergonomic Design and Accessibility	EMUSP	Forum 16
16	Applying Human Factors Theories and Methods in Sport: New Opportunities and Insights	HFSOR	Forum 17
17	Interaction Techniques for the Control of Unmanned Systems	HFUS	Forum 18
18	Expertise, Organizational Learning, and Competency-Based Learning	HFTELS	Forum 19
19	Human Factors, Business Management and Society: Human and Leadership	HFBMS	Forum 21
20	Healthcare Ergonomics Design	HC	Forum 22
10:00 - 10:30 Refreshments will be provided in Forum 24			
Session Time: 10:30 - 12:30			
21	Conformance Monitoring for NextGen Tools	AVI	Forum 1
22	Panel: Operational Socio-Cultural Programs for Defense Applications	CCDM	Forum 2
23	Quantifying Human System Readiness	C&N	Forum 3
24	Application of DHM in Design Ergonomics	ADHM	Forum 14
25	Ergonomics in the Real World I	ED	Forum 5
26	Design for Aging	ED	Forum 6
27	Healthcare Teams	HC	Forum 7
28	Human Factors in Systems Engineering I	HFSSE	Forum 8
29	Cross-Cultural Collaboration in Public Services	HSSE	Forum 9
30	Healthcare Systems Engineering: Reducing Risk and Improving Safety	HSSE	Forum 10
31	Accident Prevention and Safety Management	SMHF	Forum 15
32	Ergonomics in Design and Technology	PEHF	Forum 13
33	Human Factors of Automated Driving: Light Vehicle II	R&R	Forum 4
34	Infrastructure	R&R	Forum 11
35	Social and Occupational Systems Engineering II	S&O	Forum 16
36	Technology and Innovation in the Conceptual Era	HFBMS	Forum 17
37	Design and Applied Anthropometry	EMUSP	Forum 18
38	Interaction with Driving Assistance Systems	HFSysI	Forum 19
39	Education Research and Applications	HFTELS	Forum 21
40	Ergonomics of Performance and Workload Evaluation	ED	Forum 22

ID	SESSION TITLE	TRACK	ROOM
Session Time: 13:30 - 15:30			
41	Situation Awareness in Sports	HFSOR	Forum 1
42	Narrative, Linguistics and Semantic Analysis	CCDM	Forum 2
43	Cognitive and Perceptual Considerations for Interface Design	C&N	Forum 3
44	Smart Architecture in Sustainable Infrastructure I	HFSI	Forum 4
45	Anthropometry and Biomechanics in Design	ED	Forum 6
46	Systems Approach to Healthcare	HC	Forum 7
47	Healthcare Devices I	HC	Forum 8
48	Models and Knowledge-Based Solutions for Governance in Smart Service Systems	HSSE	Forum 9
49	Human-Computer Interactions in Healthcare	HSSE	Forum 10
50	Work Measurement: Case studies in Manpower Utilization and Line Balancing	MFG	Forum 13
51	Physical Ergonomics and Human Factors I	PEHF	Forum 15
52	Aspects of Driver - Vehicle Interface in Automated Cars I	R&R	Forum 11
53	Motorcycles	R&R	Forum 14
54	Science and Education in the Conceptual Era	HFBMS	Forum 19
55	Usability and Assistive Technology I	EMUSP	Forum 21
56	Issues in Human-Systems Integration	HFUS	Forum 22
57	Physical Ergonomics and Human Factors II	PEHF	Forum 16
58	Affective and Pleasurable Design I	APD	Forum 17
15:30 - 16:00 Refreshments will be provided in Forum 24			
Session Time: 16:00 - 18:00			
59	Affective and Pleasurable Design II	APD	Forum 1
60	Perception, Awareness and Teamwork in Aviation Operations	AVI	Forum 2
61	Cross Cultural Aspects in Organizational Dynamics	CCDM	Forum 3
62	Computational Tools for Analysis and Training	CCDM	Forum 7
63	Applied Digital Human Modeling I	ADHM	Forum 6
64	Ergonomics in the Real World II	ED	Forum 8
65	Consumer Product Design	ED	Forum 5
66	Co-Production of Healthcare Outcomes: How Patients and Providers Contribute to Quality and Costs	HC/HSSE	Forum 4
67	Human Factors in Systems Engineering II	HFSSE	Forum 9
68	Human Centered Work and Production Organization	MFG	Forum 10
69	Occupational Risk Prevention	SM&HF	Forum 16
70	Design and Perception	PE&HF	Forum 13
71	Human Performance	PE&HF	Forum 14
72	Human Factors of Automated Driving: Truck	R&R	Forum 11
73	Accidents and Safety I	R&R	Forum 18
74	Safety and Health	S&O	Forum 17
75	Ergonomics Modeling and Usability Evaluation I	EMUSP	Forum 19
76	Measurement in Safety Focused Research	HFOGN	Forum 15
77	Human Factors, Business Management and Society: Business and Management	HFBMS	Forum 22

ID	SESSION TITLE	TRACK	ROOM
Session Time: 8:00 - 10:00			
78	Emotion in Experience Design	APD	Forum 1
79	Controller, Pilot and Dispatch Tools	AVI	Forum 2
80	Cross-Cultural Issues in Stability Operations	CCDM	Forum 3
81	Factors Shaping Performance of Cyber Defenders	C&N	Forum 6
82	Sustainable Design I	ED	Forum 7
83	Systems and Simulation	HC/ADHM	Forum 4
84	Systems Engineering Applications I	HFSSE	Forum 8
85	Service Design for Value Co-Creation and Transformation	HSSE	Forum 9
86	Centrality of Human Face: Deconstructing Service & Service Management	HSSE	Forum 10
87	Fatigue, Accessibility and Performance in the Maritime Environment	MAR	Forum 5
88	Human Factors Applications	SMHF	Forum 14
89	Product Design	PEHF	Forum 15
90	Analysis Methods I	R&R	Forum 11
91	Driving Performance and Public Transport I	R&R	Forum 17
92	Social and Occupational Ergonomics I	S&O	Forum 18
93	Interface Design and Usability Evaluation for Healthcare and Safety	EMUSP	Forum 19
94	Systems Thinking Applied to Injury Prevention for Outdoor Activities	HFSOR	Forum 21
95	Human Systems Interaction	HFSysI	Forum 22
10:00 - 10:30 Refreshments will be provided in Forum 24			
Session Time: 10:30 - 12:30			
96	Affective and Pleasurable Design III	APD	Forum 1
97	Panel: Human Factors Research in Air Transportation and Space Operations	AVI	Forum 2
98	Panel: Countering Radicalization and Violent Extremism Messaging: A Unity of Effort Dialog	CCDM	Forum 3
99	System Design Using Cognitive Neuroergonomics	C&N	Forum 6
100	Macroergonomics and Mobility Design	ED	Forum 4
101	Clothing Design	ED	Forum 5
102	Service Fascination Through Emotional Design, Technology, and Gamification	HSSE	Forum 8
103	Human Side of Services in Education	HSSE	Forum 9
104	Ergonomic Products and Systems I	MFG	Forum 10
105	Safety Evaluation	SMHF	Forum 7
106	Work Assessment and Anthropometry	PEHF	Forum 13
107	Rail	R&R	Forum 11
108	Health and Risk Assessment	S&O	Forum 16
109	Ergonomic Evaluation I	S&O	Forum 17
110	Ergonomics Modeling for Automotive Industry	EMUSP	Forum 18
111	Human Factors, Business Management and Society: Design	HFBMS	Forum 19
112	Human Factors of Learning Sciences	HFTELS	Forum 14
113	Flying Remotely Piloted Aircraft in U.S. Skies: Air Traffic Control Considerations	HFUS	Forum 21
114	Human Factors of Robots and Exoskeletons I	RERA	Forum 22

ID	SESSION TITLE	TRACK	ROOM
Session Time: 13:30 - 15:30			
115	Emotion and Interface	APD	Forum 1
116	Human-Machine Interactions and Tools	CCDM	Forum 7
117	C&N Theories and Methods	C&N	Forum 9
118	Applied Digital Human Modeling II	ADHM	Forum 6
119	Sustainable Design II	ED	Forum 3
120	Product Design	ED	Forum 4
121	User Research	ED	Forum 5
122	Human Interface Design	HC	Forum 10
123	Healthcare Devices II	HC	Forum 11
124	Ergonomics and Safety	HFSysI	Forum 13
125	Enhancing Service Systems in Developing Countries through the Improvement of the Human Resource	HSSE	Forum 14
126	Ergonomics in Society	PEHF	Forum 16
127	Analysis Methods II	R&R	Forum 15
128	Systems Approaches and Participatory Design	R&R	Forum 18
129	Social and Occupational Ergonomics II	S&O	Forum 19
130	Usability and Assistive Technology II	EMUSP	Forum 17
131	Human Factors, Business Management and Society: Context	HFBMS	Forum 21
132	Model-Driven Systems Engineering Applications	HFSSE	Forum 22
15:30 - 16:00 Refreshments will be provided in Forum 24			
Session Time: 16:00 - 18:00			
133	Performance in Air Traffic Control and On Flight Decks	AVI	Forum 1
134	Social Networks and Graph Theory	CCDM	Forum 2
135	Special Focus Session: Social Science Training and Modeling Applications	CCDM	Forum 3
136	Sustainable Design III	ED	Forum 4
137	Design for Special People	ED	Forum 5
138	Management Information System Use	HC	Forum 6
139	Smart Service Systems: Augmenting and Scaling Human Expertise with Cognitive Assistants	HSSE	Forum 7
140	Ergonomic Products and Systems II	MFG	Forum 8
141	Ergonomics Evaluations	PEHF	Forum 9
142	Aspects of Driver - Vehicle Interface in Automated Cars II	R&R	Forum 11
143	Applied Digital Human Modeling III	ADHM	Forum 10
144	Ergonomic Evaluation II	S&O	Forum 14
145	Smart Architecture in Sustainable Infrastructure II	HFSI	Forum 15
146	Ergonomics Modeling and Usability Evaluation II	EMUSP	Forum 16
147	Critical Systems	HFSysI	Forum 17
148	Human Factors of Robots and Exoskeletons II	RERA	Forum 18
149	Training, Education, and Systems Analysis to Mitigate Cyber Attacks	CYBER	Forum 19
150	Modeling and Simulation	HFUS	Forum 21
151	Concept of Operations and Function Allocation	HFOGN	Forum 22

ID	SESSION TITLE	TRACK	ROOM
Session Time: 8:00 - 10:00			
152	Affective and Pleasurable Design IV	APD	Forum 1
153	Effects of Training and Fatigue on Performance	AVI	Forum 2
154	Cognitive Biases, Change of Risk Attitude, and Ethical Behavior in Decision Making	CCDM	Forum 3
155	Health, Society and Culture	CCDM	Forum 6
156	Measures of Attention and Workload	C&N	Forum 7
157	Methodology Issues in Design I	ED	Forum 9
158	Healthcare Setting Design	HC/ADHM	Forum 4
159	Servicescape Designs In Healthcare Organizations: How Physical Space Impacts Patient Care Systems	HSSE/HC	Forum 5
160	Maneuvers and Challenges in the Maritime Domain and Ecosystem	MAR	Forum 10
161	Knowledge Based Enterprise	MFG	Forum 15
162	Safety Management	SMHF	Forum 13
163	Ergonomics Techniques	PEHF	Forum 14
164	Distractions and Warnings	R&R	Forum 11
165	HMI Design I	R&R	Forum 16
166	Design and Social Dimension	S&O	Forum 17
167	Human Factors in Urbanistic	HFSI	Forum 18
168	Ergonomics Modeling and Usability Evaluation III	EMUSP	Forum 19
169	Designing the Learning Experience	HFTELS	Forum 8
170	Human-Agent Teaming	HFUS	Forum 21
171	Sustainable Design IV	ED	Forum 22
10:00 - 10:30 Refreshments will be provided in Forum 24			
Session Time: 10:30 - 12:30			
172	Effects of Automation on Human Performance in Air Transportation	AVI	Forum 1
173	Training Consequential Social Interactions that Involve Participants from Dissimilar Cultures	CCDM	Forum 2
174	Uncertainty and Decision Making Considerations	C&N	Forum 3
175	Modern Trends in Ergonomics, Safety of Product and Manufacturing Design	ED	Forum 5
176	Methodology Issues in Design II	ED	Forum 7
177	Healthcare Safety I	HC/ADHM	Forum 4
178	HSSE: Planning Session	HSSE	Forum 9
179	Safety in Complex Systems/Impact of (Distributed) Situation Awareness on Performance and Safety	SMHF	Forum 10
180	Musculoskeletal Disorders	PEHF	Forum 14
181	Environmental Ergonomics	PEHF	Forum 13
182	Eco-Driving	R&R	Forum 11
183	Workload	R&R	Forum 15
184	Human Reliability	HFOGN	Forum 18
185	Risk and Injury Management in Sport and Outdoor Recreation	HFSOR	Forum 19
186	Innovation in HCI	HFSysI	Forum 17
187	System Design and Development of Unmanned Systems I	HFUS	Forum 21
188	Human Error Analysis in the Workplace and Automotive Studies	ED	Forum 22

ID	SESSION TITLE	TRACK	ROOM
Session Time: 13:30 - 15:30			
189	Affective and Pleasurable Design V	APD	Forum 1
190	HMI Design II	R&R	Forum 2
191	Cross-Cultural Issues in Training, Education and Assessment	CCDM	Forum 3
192	Air Traffic Control Human Factors	AVI	Forum 4
193	Methodology Issues in Design III	ED	Forum 6
194	Healthcare Devices III	HC	Forum 8
195	Hand in Hand: Innovating Meaningful Services in Digital and Human Networks	HSSE	Forum 9
196	Ergonomic Design of Future Production Systems II	MFG	Forum 10
197	Occupational Risks and Musculoskeletal Disorders	PEHF	Forum 5
198	Ergonomics in New Technology	PEHF	Forum 13
199	Driving Performance and Public Transport II	R&R	Forum 11
200	Social Influence and Cultural Factors	S&O	Forum 16
201	Ergonomic Evaluation in Architecture	HFSI	Forum 17
202	Ergonomics Modeling and Usability Evaluation IV	EMUSP	Forum 18
203	Training Applications in Military and Operational Environments	HFTELS	Forum 14
204	System Design and Development of Unmanned Systems II	HFUS	Forum 21
205	Virtual Reality and Ergonomic Design	ED	Forum 22
206	Systems Engineering Applications II	HFSSE	Forum 15
15:30 - 16:00 Refreshments will be provided in Forum 24			
Session Time: 16:00 - 18:00			
207	Methods of Analyzing User Behaviors and Designing Affective Experiences	APD	Forum 1
208	Population and Stability Modeling	CCDM	Forum 3
209	Special Event: CCDM Photography Contest	CCDM	Forum 6
210	Multimodal Design Considerations	C&N	Forum 7
211	Applied Digital Human Modeling IV	ADHM/HC	Forum 4
212	Ergonomics and Safety Management	ED	Forum 8
213	Education Design	ED	Forum 9
214	Disorders and Pain Reduction in Patients and Employees	HC	Forum 5
215	Systems Engineering Applications III	HFSSE	Forum 11
216	Data Analysis for O2O Service Design (DaOSD)	HSSE	Forum 14
217	Safety and Human Error	PEHF	Forum 15
218	Accidents and Safety II	R&R	Forum 17
219	Usability and Assistive Technology III	EMUSP	Forum 18
220	Oil, Gas, and Nuclear Industries	HFOGN	Forum 19
221	Creativity, Learning and Behavior	HFSysI	Forum 21
222	Human Factors, Business Management and Society: Society and Environment	HFBMS	Forum 22
223	Healthcare Safety II	HC/ADHM	Forum 13

Detailed Technical Program

Tuesday, July 28, 2015

1	Plenary: Cross-Cultural Decision-Making Co-Chairs: S. Schatz and J. Cohn, USA	CCDM
8:00-10:00 FORUM 4	Social radar Speaker: M. Maybury, USA Work, life, and learning in the social age Speaker: J. Stodd, UK	
2	Plenary: The Human Side of Service Engineering Co-Chairs: L. Freund and W. Cellary, USA/Poland	HSSE
8:00-10:00 FORUM 11	Human-centered service systems: Contrasting healthcare delivery and urban resilience Speaker: W. B. Rouse, USA	
3	Product Language, Representation and Tangible Branding Chair: A. Warell, Sweden	APD
8:00-10:00 - FORUM 1	A system analysis of transmedia storytelling toys in relation to product attachment T. Gulden, Norway Identity references in product design: An approach for inter-relating visual product experience and brand value representation A. Warell, Sweden Aesthetic flexibility in the management of product brands T. Andersson, Sweden Action elements: Designing for the sub-conscious decision making J. Singh and A. Warell, Sweden Applying design reasoning and semantic debate in meaning and identity creation A. Liem and G. Bonnemaire, Norway	
4	Pilot and Controller Performance in Potential NextGen Environments Chair: K.-P. L. Vu, USA	AVI
8:00-10:00 - FORUM 2	Pilot and controller performance in potential NextGen environments K. -P. Vu, USA An investigation of the harbor pilot concept for single pilot operations M. Koltz, Z. Roberts, J. Sweet, H. Battiste, J. Cunningham, V. Battiste, K.-P. Vu and T. Strybel, USA Examining response time-out causes and operator responses to additional question time-out probes J. Cunningham, E. Hallett, H. Battiste, S. Curtis, M. Koltz, J. Lachter, S. Brandt, V. Battiste and W. Johnson, USA May I interrupt? The effect of spam probe questions on air traffic controller performance J. Keeler, H. Battiste, E. Hallett, Z. Roberts, A. Winter, K. Sanchez, T. Strybel and K. -P. Vu, USA Training student air traffic controllers to trust automation A. Miramontes, A. Tesoro, Y. Trujillo, E. Barraza, J. Keeler, A. Boudreau, K.-P. Vu and T. Strybel, USA The comparative benefits and hazards of EFBS and paper documents in the cockpit J. Sweet, V. Battiste, K.-P. Vu and T. Strybel, USA	

5	Decision Making in Critical Infrastructures Co-Chairs: K. Cole and C. Forsythe, USA	C&N
8:00-10:00 - FORUM 3	Situational awareness and automation in the electric grid control room S. Stevens Adams, K. Cole, M. Haass, C. Warrender, R. Jeffers, L. Burnham and C. Forsythe, USA Toward an objective measure of level of automation for the smart grid M. Haass, C. Warrender, L. Burnham, R. Jeffers, S. Stevens Adams, K. Cole and C. Forsythe, USA Framing, information alignment, and resilience in distributed human coordination of critical infrastructure event response B. Caldwell, USA Computerized operator support systems to aid decision making in nuclear power plants R. Boring, K. Thomas, T. Ulrich and R. Lew, USA To SA and beyond: Strategic management in dynamic environments F. Durso, USA	
6	Design and Human Behavior Chair: A. Costa, Portugal	ED
8:00-10:00 - FORUM 6	Warnings for children: Do they make sense? R. Boto, E. Duarte and P. Noriega, Portugal Design processes in pictogram design. Form and harmony through modularity C. Rosa, Portugal User, design, startup! T. Serpa and F. Silva, Portugal Child-persona: How to bring them to reality? A. Costa, F. Rebelo, P. Noriega and J. Teles, Portugal Temperature on hands' surface during manual wheelchair propulsion: A comparative study of two hand rim designs R. Curimbaba, F. Medola, L. Faganello, R. Scatolim, E. Merino, G. Merino, L. Garcia and L. Paschoarelli, Brazil	
7	Usability Design Chair: P. Thorvald, Sweden	ED
8:00-10:00 - FORUM 5	Usability study on 1.5T MRI scanner, Siemens model Magnetom Espree I. Rafailov, W. Da Silva Fernandes, J. Fonsêca de Queiroz, S. Natercia Ferreira dos, M. Soares and L. Vila-Nova, Brazil Towards an increased degree of usability work in organizations R. Andreasson, J. Lindblom and P. Thorvald, Sweden Experience design as a tool to promote interaction among users in the beverage market: Proposal for a new emotional approach in usability P. F. Bezerra, A. Arruda and K. Araújo, Brazil Usability and gameplay in news games: A comparative analysis of the genre of documentary published in Brazilian news portals C. Teixeira, B. Carvalho, A. Lins, M. Soares, V. Martins, J. Agra, A. Neves and G. Soares, Brazil Evaluation of usability aspects of consumer products in online sales B. Razza and L. Paschoarelli, Brazil NOPA – Usability testing of an application to help patients during the treatment of infectious and chronic diseases in Brazil F. Maciel and S. Hayashi, Brazil	

8	Human Factors in Surgery and Radiotherapy Co-Chairs: A. Woll, Norway, R. Onofrio, Italy, and E. Fallon, Ireland	HC
8:00-10:00 - FORUM 8	Towards a taxonomy of influencing factors for human reliability analysis (HRA) applications in surgery R. Onofrio, P. Trucco and A. Torchio, Italy The impact of flow disruptions on three key members of the cardiac surgical team: Anesthesia, perfusion, and the circulating nurse T. Cohen, O. Sisk, J. Cabrera, K. Welsh, E. Pohl, A. Boquet, S. Shappell, J. Abernathy and S. Reeves, USA Near real-time operational management system for healthcare services H. Neemuchwala, M. Lederle and A. Murat, USA Lean and high reliability initiatives on patient safety in radiotherapy – UNC Chapel Hill L. Marks and L. Mazur, USA An analysis of the impact of trends in automation on human error potential in brachytherapy E. Fallon and L. Chadwick, Ireland The utilisation of probabilistic risk assessment in radiation oncology W. van der Putten, E. Fallon and G. Sands, Ireland	
9	Teamwork and Situation Awareness in Maritime Transport Co-Chairs: S. Nazir, Norway/Italy, and L. J. Sorensen, Norway	MAR
8:00-10:00 - FORUM 9	All responsibility, no care: A systems analysis case study of beach driving stakeholders in Australia N. Stevens and P. Salmon, Australia Assessing navigational teamwork through the situational relevance of communication K. Øvergård, A. Nielsen, L. Sorensen and S. Nazir, Norway Bayesian perspective on the deck officer's situation awareness to navigation accidents G. Psarros, Norway Increased awareness for maritime human factors through e-learning in crew-centred design G. Praetorius, A. Kataria, J.-U. Schröder-Hinrichs and M. Baldauf, Sweden 80' sustainable motoryacht: Technological solutions concept of the living spaces on board M. Di Nicolantonio, J. Lagatta and A. Vallicelli, Italy A multi-method analysis of the accessibility of the Izmir ferry system S. Ercoli, A. Ratti and E. Ergül, Italy Situational awareness in coastal navigation with pilot onboard B.-M. Batalden, Norway	
10	Ergonomic Design of Future Production Systems I Co-Chairs: C. Schlick and J. Bützler, Germany	MFG
8:00-10:00 - FORUM 10	Function allocation between humans and systems in self-optimizing production networks J. Bützler, Germany Using motor resonance to optimize human-robot cooperation S. Kuz, H. Petruck and C. Schlick, Germany Human-robot cooperation in future production systems: Analysis of requirements for designing an ergonomic work system M. Faber, J. Bützler and C. Schlick, Germany Optimal touch buttons size for the use of mobile devices while walking J. Conradi, O. Busch and T. Alexander, Germany On the visual design of ERP systems – the role of information complexity, presentation and human factors V. Mittelstädt, P. Brauner, M. Blum and M. Ziefle, Germany Lifting activities in production and logistics of the future – Cardiopulmonary Exercise Testing (CPET) for analyzing the physiological stress V. Knott, T. Mayr and K. Bengler, Germany User centered design of a cyber-physical support solution for assembly processes T. Römer and R. Bruder, Germany	

11	Occupational Ergonomics Chair: P. Dasgupta, USA	PEHF
8:00-10:00 - FORUM 13	Interventions to reduce the ergonomic exposures during drywall installation P. Dasgupta and B. Buchholz, USA Thermographic analysis of the hands of poultry slaughterhouse workers exposed to artificially cold environment E. Ramos, D. Reis, A. Tirloni and A. Moro, Brazil An ergonomic evaluation on the set-up of the modern drum kit for Filipino drummers R. Cuden, V. League and C. A. San Miguel, Philippines Assessment of risk factors of upper limb musculoskeletal disorders in poultry slaughterhouse D. Reis, E. Ramos, P. Reis, P. Hembecker, L. Gontijo and A. Moro, Brazil Perception of safe horizontal reaching distance changes with repetitive occupational loading in novice lifters D. McCubbing, J. Doan, G. Shan, C. Gonzalez and O. Awosoga, Canada The mechanics of aircrafts and their most common musculoskeletal disorders J. O. Pinto and M. C. Neves, Portugal	
12	Human Factors of Automated Driving: Light Vehicle I Co-Chairs: J. de Winter, C. Cabral and G. Fitch, The Netherlands/USA	R&R
8:00-10:00 - FORUM 14	Modeling driver response to imperfect vehicle control automation B. Seppelt and J. Lee, USA Psychological constructs in highly automated driving: A consensus model and critical comment on construct proliferation D. Heikoop, J. de Winter, B. van Arem and N. Stanton, UK When communication breaks down or what was that? – The importance of communication for successful coordination in complex systems A. Eriksson and N. Stanton, UK An international crowdsourcing study into people's statements on fully automated driving P. Bazilinsky, M. Kyriakidis and J. de Winter, The Netherlands Vigilance decrement and passive fatigue caused by monotony in automated driving M. Körber, A. Cingel, M. Zimmermann and K. Bengler, Germany Trust in automation - Before and after the experience of take-over scenarios in a highly automated vehicle C. Gold, M. Körber, C. Hohenberger, D. Lechner and K. Bengler, Germany The transition to automated driving and its effect on the safety ecosystem: Do self-driving cars need to predict the safety of other drivers' behaviour? R. van Loon and M. Martens, The Netherlands	
13	Individual Differences Chair: N. Goode, Australia	R&R
8:00-10:00 - FORUM 7	Ambient temperature effects on driving N. Faisal Chowdhury, USA The need for speed? The relationships between driver traits and speed choices during a naturalistic drive A. Stephens, K. Young, D. Logan and M. Lenne, Australia Observations of drivers' behavior when opening car doors C. -Y. Huang, Taiwan Driving related fear treatment – different therapeutic approaches to two clients from one family system (case study). V. Kureckova, P. Zamecnik and P. Rezac, Czech Republic	

14	Social and Occupational Systems Engineering I Chair: L. Pacholski, Poland	S&O
8:00-10:00 - FORUM 15	Behaviour based intervention for occupational safety – Case study M. Jasiulewicz-Kaczmarek, M. Szczuka and K. Szwedzka, Poland Social dimension of sustainability in CSR standards M. Szczuka, Poland Conception of the quantification of subjective ergonomic criteria in the network thinking method G. Dahlke and M. Drzewiecka, Poland Ergonomic criteria in the investigation of indirect causes of accidents G. Dahlke, Poland Fatigue of miners as a key factor in the work safety system M. Butlewski, G. Dahlke, M. Drzewiecka and L. Pacholski, Poland Acceleration of educating as an external factor supporting preventive and improving actions in businesses M. Szafranski, Poland	
15	Ergonomic Design and Accessibility Chair: B. Mrugalska, Poland	EMUSP
8:00-10:00 - FORUM 16	Ergonomic analysis to study the intensity of MSDs among practicing Indian dentists S. Moosavi, R. Desai, S. Nishabouri, K. Sundaram and V. Hedge, Iran Validation of a horizontally dynamic armrest for joystick controlled heavy mobile equipment M. Oliver and D. Boucher, Canada Determining participation eligibility for amusement attractions K. Woodcock, Canada Fitts' modeling of pointing time in eye-gaze input system that takes into account the effects of target shape and display location on pointing performance A. Murata, I. Konishi, M. Moriwaka and D. Fukunaga, Japan Evaluation of an augmented reality embedded on-line shopping system C. -H. Wang, Y.-C. Chiang and M. -J. Wang, Taiwan	
16	Applying Human Factors Theories and Methods in Sport: New Opportunities and Insights Chair: P. Salmon, Australia	HFSOR
8:00-10:00 - FORUM 17	The chain gang: A network analysis of the goals scored during World Cup 2014 P. Salmon, N. Stevens, E. Stevens, G. Walker and N. Stanton, Australia/UK Theoretical and methodical approaches to studying team cognition in sports N. McNeese, N. Cooke, M. Fedele and R. Gray, USA Time to start training: A review of cognitive research in sport and proposal for bridging the gap from academia to the field P. Belling and P. Ward, USA Science of martial arts – an example of the dilemma in classifying new interdisciplinary sciences in the global systems of the science evaluation and the social consequences of courageous decisions R. Kalina, Poland Risks associated with professional Enduro motorcycling R. Dominguez, Chile	

17	Interaction Techniques for the Control of Unmanned Systems Co-Chairs: K. Wright and A. Bodenhamer, USA	HFUS
8:00-10:00 - FORUM 18	Is symbolic gestural interaction better for the visual attention? F. Taralle, A. Paljic, S. Manitsaris, J. Grenier and C. Guettier, France Assessment of alternative manual control methods for small unmanned aerial vehicles J. Stevenson, S. O'Young and L. Rolland, Canada Hands-free and eyes-free: Tactile and gestural options for the dismount soldier G. Hartnett, L. Elliott, B. Mortimer and A. Skinner, USA Human systems integration challenges for the development of a U. S. Army common hand controller A. Bodenhamer, USA Starting over: A UAV information dashboard J. Hansberger, USA	
18	Expertise, Organizational Learning, and Competency-Based Learning Co-Chairs: T. Barath, Hungary, and R. Ford, USA	HFTELS
8:00-10:00 - FORUM 19	Learning organization as a tool for better and more effective schools T. Barath, Hungary Competency-based education 101 R. Ford and R. Meyer, USA Specialized knowledge transfer: Accelerating the expertise development cycle H. Baxter, USA Standardized test system of health-related physical fitness for Thai college students W. Choensawat and T. Sookhanaphibarn, Thailand The role of human factors in veteran SQA training J. Cavin, USA Human factors issues in developing country remote K-12 education S. Conger, USA	
19	Human Factors, Business Management and Society: Human and Leadership Co-Chairs: K. Liikamaa and V. Salminen, Finland	HFBMS
8:00-10:00 - FORUM 21	Developing a project manager's competencies - A collective view of the most important competencies K. Liikamaa, Finland Evaluating organizational commitment in support of organizational leadership J. Einolander, Finland Taxonomy of knowledge management in open innovations P. Haapalainen and J. Kantola, Finland Competence portfolio assessment of research and development center for regional development V. Salminen, J. Kantola and H. Vanharanta, Finland The World Innovation Stock Exchange - shared value for individuals, business and society H. Vanharanta and E. Markopoulos, Finland	

20	Healthcare Ergonomics Design Co-Chairs: K. Kay and N. Glass, Australia	HC
8:00-10:00 - FORUM 22	(Mis) power in moving and handling: Nurses' experiences of workplace ergonomic programs K. Kay, N. Glass and A. Evans, Australia Ergonomic design in eHealthcare: A case study of ehealth technology system A. Marano and M. Di Nicolantonio, Italy Protecting Veterans and healthcare workers: Ebola virus containment preparation in large urban metropolitan area J. McInerney, USA Prevalence of musculoskeletal disorder among computer user bank office employees in Punjab (India): A case study R. Moom, N. Moom and L. Singh, India Reduction of patient's waiting time E. Khorshid, Saudi Arabia	
10:00 - 10:30 Refreshments will be provided in Forum 24		
21	Conformance Monitoring for Nextgen Tools Co-Chairs: S. Verma and L. Martin, USA	AVI
10:30-12:30 - FORUM 1	Effects of distractors and force feedback on an aimed movement task in a CDTI environment K. Monk, USA Human factors assessment of disturbances to scheduled performance-based navigation arrival operations L. Sturre, T. Kozon, S. Verma, J. Jung and S. Zelinski, USA Air traffic controller trust in automation in NextGen T. Mirchi, K.-P. Vu, J. Miles, L. Sturre, S. Curtis and T. Strybel, USA NextGen surface trajectory-based operations (STBO): Evaluating conformance to 4-dimensional trajectories (4DT) D. Bakowski, B. Hooey, D. Foyle and C. Wolter, USA Accommodating off nominal conditions when working to a metered schedule L. Martin, J. Nguyen, M. Lin, S. Sharma and K. Witzberger, USA	
22	PANEL: Operational Socio-Cultural Programs for Defense Applications Chair: S. K. Numrich, USA	CCDM
10:30-12:30 - FORUM 2	Whither -- socio-cultural adaptation programs in the department of defense S. K. Numrich, P. M. Picucci and A. A. Alrich, USA Defense institution building: An assessment W. Perry, USA Minerva research initiative E. Fitzgerald, USA Defense language perspective M. Hill, USA Assessing what and why? Hard questions in assessment of dod's language, region, and culture efforts K. Foshier, USA	

23	Quantifying Human System Readiness Chair: K. Hale, USA	C&N
10:30-12:30 - FORUM 3	Getting to a good enough cognitive shoe size – An operators perspective P. Palmer, USA What went wrong, what can go right: A prospectus on human factors practice M. McNeese, V. Mancuso, N. McNeese and E. Glantz, USA Development of a scale for quantifying a system's human factors readiness K. Del Giudice, K. Hale and M. Johnston, USA Establishing HSI framework for assessing total system performance M. O'Neil, USA	
24	Application of DHM in Design Ergonomics Co-Chairs: D. Högberg, R. Marshall and S. Summerskill, Sweden/UK	ADHM
10:30-12:30 - FORUM 14	Accommodation levels for ellipsoid versus cuboid defined boundary cases D. Hogberg, E. Brolin and L. Hanson, Sweden The development of a truck concept to allow improved direct vision of vulnerable road users by drivers S. Summerskill and R. Marshall, UK The development of an objective methodology for the evaluation of driver's field of view R. Marshall and S. Summerskill, UK Digital human modelling and the ageing workforce K. Case, A. Hussain, R. Marshall, S. Summerskill and D. Gyi, UK Implementation of suitable comfort model for posture and motion prediction in DHM supported vehicle design C. Bergman, P. Ruiz Castro, P. Mårdberg, D. Hogberg and L. Hanson, Sweden	
25	Ergonomics in the Real World I Co-Chairs: M. Carvalho and P. Arezes, Portugal, and D. Davcev, Macedonia	ED
10:30-12:30 - FORUM 5	The impact of work clothing design on workers' comfort S. Bragança, L. Fontes, P. Arezes, E. Edelman and M. Carvalho, Portugal/USA Design project for the resignification of Peniche's bobbin lace I. Bieger and C. Carvalho, Portugal Framework of awareness: For the analysis of ergonomics in design S. Vieira, P. Badke-Schaub and A. Fernandes, Portugal/The Netherlands Military weight transportation systems: A biomechanical and design based approached review R. Dagge and E. Filgueiras, Portugal Ergonomics design of healthcare NFC-based system D. Davcev and G. Jakimovski, Macedonia Effectiveness of the oil and gas industry protective clothing: An integrative review of the literature C. R. Leite da Silva, Brazil Introducing value of ergonomics into road corner prompting mirror design innovations Y. Zhao, H. Du and H. Hu, China	

26	Design for Aging Chair: R. Mendonca, Brazil	ED
10:30-12:30 - FORUM 6	The elderly and environmental perception in collective housing M. Paiva, E. Sobral and V. Villarouco, Brazil Working for the elderly - issues regarding getting to know their needs R. Mendonca, R. Engler, F. Vitolo and V. Gouveia de Oliveira, Brazil Biomechanics and fashion: Contributions for the design of clothing for the elderly E. Das Neves, A. Brigatto, F. Medola and L. Paschoarelli, Brazil Innovative aid design of moving kitchenware for elders F.-G. Wu, Y.-C. Lin and H.-H. Sun, Taiwan Adjusting ergonomic guidelines for the aging workforce population: Can we land on reasonable modifiers? V. Missar, USA	
27	Healthcare Teams Chair: K. Norris, USA	HC
10:30-12:30 - FORUM 7	Expediting return to work full duty with successful onsite medical management K. Norris, USA A collaborative change experiment: Post-experiment evaluation of home telecare for elderly home dwellers A. Woll and S. Govind Joshi, Norway Future welfare technologies using tangible interaction to support reduced ability to interact with current welfare technologies and compensate for age-related impairments T. Iversen and S. Govind Joshi, Norway Explore home care needs and satisfaction for elderly people with chronic disease and their family members F.-H. Huang, Taiwan Too many cooks spoil the broth: Influence of team size on coordination and clinical performance in pediatric emergency teams J. Schmutz, Switzerland Modeling the neurodynamic and communication interactions of healthcare teams during simulation training A. Willemsen-Dunlap, R. Stevens, G. Jamie and D. Halpin, USA The application of critical reflection in health literacy approaches to sustain self-care program for chronically ill persons in philanthropic primary health care unit P. Santiparp, Thailand	
28	Human Factors in Systems Engineering I Chair: R. Sharples, UK	HFSSE
10:30-12:30 - FORUM 8	Implementation of Human System Integration (HSI) and 'non-functional characteristics' into the systems engineering lifecycle - A practical approach at Airbus Defence and Space R. Sharples, UK A quality framework for software continuous integration S. Hamdan and S. AlRamouni, Saudi Arabia Creating rich human-machine interfaces with rational rhapsody and qt for industrial multi-core real-time applications O. Berreteaga and L. Granado, Spain Sea lion and human factors, the "wicked problems" and their system of system solutions C. Rose, A. Hubert and C. Bouwens, USA Integrating machines, humans, and data in manufacturing B. Kiefer, Canada Improving patient flow in outpatient clinics in the healthcare in Saudi Arabia A. AlSarheed, Saudi Arabia Appraising the features of SADAD e-payment system: A Saudi users' perspective F. Al-Harby, Saudi Arabia	

29	Cross-Cultural Collaboration in Public Services Chair: C. Leitner, UK	HSSE
10:30-12:30 - FORUM 9	Cross-cultural collaboration in public services: A European perspective C. Leitner and D. Fenner, UK University as "convergence space for sustainable governance" in smart local service systems P. Piciocchi, A. Tommasetti, J. Spohrer, F. Calza, V. M. Fiorino and C. Bassano, Italy/USA/Colombia Human-centered design curriculum for multidisciplinary application at design faculties L. Glomann, Germany Beyond digital crowdsourcing: How the Estonian people's assembly solved a crisis of democracy N. Leosk, Estonia EU citizens' participation and challenges for cross cultural decision making in the EU E. Grossschaedl and C. Leitner, Austria/UK	
30	Healthcare Systems Engineering: Reducing Risk and Improving Safety Chair: E. Cudney, USA	HSSE
10:30-12:30 - FORUM 10	"Rooming the patient" vs "moving the patient" S. Murray and E. Cudney, USA Engaging healthcare users through gamification to in knowledge sharing of continuous improvement in healthcare E. Cudney and S. Murray, USA The effect of one word label to show sender's tacit intention in a handing-over in nursing care facilities-Development of communication means for improving service quality M. Nakajima, T. Fukuhara, T. Nishimura and M. Akamatsu, Japan An analysis of hand-over note support system for care-workers in real operation K. Fukuda, T. Nishimura, K. Watanabe, T. Fukuhara and M. Nakajima, Japan Early detection methods based on unstructured medical records for improving patient adherence, care services and reducing unplanned acute care costs J. Sairamesh, C. Kaskiris and M. Li, USA Cognitive load balancing in a pancreatic multidisciplinary clinic: Improving clinic room and staff utilization while maintaining care quality outcomes S. Elnahal, S. Moningi, A. Wild, A. Dholakia, M. Hodgins, L. Parish, P. Huang and J. Herman, USA	
31	Accident Prevention and Safety Management Co-Chairs: P. Carvalho, Brazil, P. Arezes, Portugal, and A. Sugama, Japan	SMHF
10:30-12:30 - FORUM 15	An accident investigation on a large construction project: An ethnographic case study D. Oswald, S. Smith and F. Sherratt, UK Accident causation, prevention and safety management: A review of the state-of-the-art M. Pillay, Australia Accident modelling of railway safety occurrences: The Safety and Failure Event Network (SAFE-Net) Method K. Klockner and Y. Toft, Australia The leading edge: a systems thinking methodology for assessing safety leadership S. -L. Donovan, P. Salmon and M. Lenne, Australia Contributions of the debate about the work in safety management: A case study R. Rocha, V. Figueiredo, A. K. Baptista and C. Sirqueira, Brazil Major accidents in modern oil and gas industry and the role of safety culture H. Abraha, Norway Workplace accident in production system in Bahia, Brazil: Approach and prevention M. Ramos and A. Goncalves Filho, Brazil	

32	Ergonomics in Design and Technology Co-Chairs: S. Xiong, Korea, and X. Ning, USA	PEHF
10:30-12:30 - FORUM 13	Human kinematics and task performance during touch screen electronic device operations X. Ning, B. Hu and C. Scott, USA Progress towards automated human factors evaluation S. Cao, Canada Comprehension and redesign of newly introduced water-sport prohibitive symbols in South Korea W. Kim, Y. Siswandari and S. Xiong, South Korea Comparison between US and Korea patents on characteristics of the technology for developing helmets J. Kwon, H.-H. Lee and S. Bak, South Korea User preferences of urban park seating pattern in Hong Kong Y. Luximon, H. Y. Kwong and T. T. Tai, Hong Kong Effects of age and training on recruitment pattern of upper limb joint angles during finger pointing movements in three-dimensional space S. Muraki and E. Takeda, Japan	
33	Human Factors of Automated Driving: Light Vehicle II Co-Chairs: J. de Winter and G. Fitch, The Netherlands/USA	R&R
10:30-12:30 - FORUM 4	An experimental study on the difference in drivers' decision-making behavior during manual and supported driving H. Terai, H. Okuda, K. Hitomi, T. Bando, C. Miyajima, T. Hirayama, Y. Shinohara, M. Egawa and K. Takeda, Japan A review and framework of control authority transitions in highly automated driving Z. Lu and J. de Winter, The Netherlands Driver state monitoring systems – Transferable knowledge manual driving to HAD J. Gonçalves and K. Bengler, Germany Change of parameter value and performance of driver models in case of authority transitions between adaptive cruise control and manual driving S. Varotto, R. Hoogendoorn, B. van Arem and S. Hoogendoorn, The Netherlands The activation of eco-driving mental models: Are regular reminders able to change driving habits? S. Pampel, S. Jamson, D. Hibberd and Y. Barnard, UK	
34	Infrastructure Chair: N. Stevens, Australia	R&R
10:30-12:30 - FORUM 11	A review to determine ideal locations for radar speed signs: Recommendations for best practice M. Li and A. Faghri, USA A charging place to be - users' evaluation criteria for the positioning of fast charging infrastructure for electro mobility R. Philipsen, T. Schmidt and M. Ziefle, Germany OCC controller workload evaluation model and application W. Fang, Y. Liu, B. Guo and Y. Zhang, China Human benefits of road improvements: A case study R. Tarefder, USA	

35	Social and Occupational Systems Engineering II Chair: L. Pacholski, Poland	S&O
10:30-12:30 - FORUM 16	Application of selected quantitative analysis methods in the design of an ergonomic system A. Jasiak and A. Dewicka, Poland Ergonomic modernization in a selected automotive company A. Jasiak, Poland Man as internal customer for working environment improvements A. Górny, Poland Safety climate level as a tool aiding safety management in a production facility I. Gabryelewicz, E. Kowal, A. Kowal and J. Sadłowska-Wrzesińska, Poland Psychomotor performance monitoring system in the context of fatigue and accident prevention M. Butlewski and K. Hankiewicz, Poland Assessment of importance of conditions and safety of work for shaping management image A. Mazur and R. Marczevska-Kuźma, Poland	
36	Technology and Innovation in the Conceptual Era Chair: A. Szopa, Poland	HFBMS
10:30-12:30 - FORUM 17	Socio-cultural circumstances to establish university spin-off companies A. Szopa, T. Marek and M. Fafrowicz, Poland When leaders become strategists: A new look at determinants of leadership styles through their relationship with strategic thinking J. Babiak, B. Bajcar and C. Nosal, Poland Environmental management: An overview in higher education institutions T. Rauen, A. Guillermo Rojas Lezana and V. da Silva, Brazil An assessment of technologies with wide range of impact. A case of RFID B. Gladysz and K. Santarek, Poland From dialing to tapping: University students report on mobile phone use J. Fowler and J. Noyes, UK	
37	Design and Applied Anthropometry Co-Chairs: Y. M. Choi, USA, and J. Sheikh, Pakistan	EMUSP
10:30-12:30 - FORUM 18	Anthropometric analysis of human head for designing ballistic helmets M. Catapan and M. L. Ribeiro, Brazil Comparison of grip and pinch strength in adults with dexterity limitations to normative values Y. M. Choi, USA A closer look on the user centered design A. Chammas, M. Quaresma and C. Mont'Alvão, Brazil Shopping experience for all. Social inclusion through the multisensorial design of daily activities S. Camplone and G. Di buccianico, Italy How ergonomics modeling and co-design can help projects of more comfortable swimsuits L. Branco, Brazil	

38	Interaction with Driving Assistance Systems Chair: M. Götze, Germany	HFSysl
10:30-12:30 - FORUM 19	Optimal information output in urban traffic scenarios: An evaluation of different HMI concepts M. Götze, F. Ruff and K. Bengler, Germany In-vehicle head-tracking I. Feldstein, A. Guentner and K. Bengler, Germany Classification of driver stop/run behavior at the onset of a yellow indication for different vehicles and roadway surface conditions E. Jahangiri, H. Rakha and I. El-Shawarby, USA Development of a touch screen based blind control interface for operating main function of AVN/air conditioning system while driving J. Min, G. Hong, J. Oh and S. Youn, South Korea	
39	Education Research and Applications Chair: J. Conradi, Germany	HFTELS
10:30-12:30 - FORUM 21	Exploring local micro-climates with an open-source mesh of sensor motes K. Lim, C. Chan and R. Lee, Singapore Role play. A useful tool in ergonomics education for a safer performance J. N. Serratos-Perez, C. Serratos-Negrete, C. Negrete-Garcia and L. Morales, Mexico Effective mitigation of anchoring bias, projection bias, and representativeness bias from serious game-based training B. Clegg, B. McKernan, R. Martey, S. Taylor, J. Stromer-Galley, K. Kenski, E. Saulnier, M. Rhodes, J. Folkestad, E. McLaren, A. Shaw and T. Strzalkowski, UK/USA Human factors for students' perceptions toward usability features in Tadarus M. Alkhattabi, Saudi Arabia	
40	Ergonomics of Performance and Workload Evaluation Co-Chairs: J. de la Riva and A.-A. Maldonado-Macias, Mexico	ED
10:30-12:30 - FORUM 22	Methodology to determine time allowance by work sampling using heart rate J. de la Riva, A. Garcia, R. M. Reyes and A. Woocay, Mexico Path process chart - a technique for conducting time and motion study P. Magu, K. Khanna and P. Seetharaman, India Application of a fuzzy axiomatic design methodology for ergonomic compatibility evaluation on the selection of plastic molding machines: A case study A. -A. Maldonado-Macias, J. Garcia, R. M. Reyes and J. Hernandez, Mexico Determination of burnout syndrome among middle and senior management in manufacturing industry in Ciudad Juarez A. -A. Maldonado-Macias, R. Camacho, S. Valadez, J. Garcia and J. Limon, Mexico Effects of organizational macroergonomic compatibility elements over manufacturing systems' performance A. Realvásquez, A.-A. Maldonado-Macias, J. Garcia and J. Blanco-Fernández, Mexico Using NASA TLX for evaluating surgeon's workload and performance L. Guimarães and R. Diniz, Brazil	

41	Situation Awareness in Sports Chair: T. Neville, Australia	HFSOR
13:30-15:30 - FORUM 1	Applying human factor theories to studying situation awareness in sports A. -C. Macquet, France Enhancing tactical skills in soccer: Advances from the naturalistic decision making approach G. Kermarrec, France Distributed situation awareness within the coach-athlete system in elite sports A. -C. Macquet and N. Stanton, France/UK The effect of communication equipment on the distributed situation awareness of Australian rules umpires T. Neville and P. Salmon, Australia Examining the impact of helmet orientation visual cues on the passing effectiveness of quarterbacks in American football M. Sawyer, C. Buchmann and C. Kalbaugh, USA	
42	Narrative, Linguistics and Semantic Analysis Co-Chairs: L. Saner and A. Ruvinsky, USA	CCDM
13:30-15:30 - FORUM 2	Cross-cultural differences in linguistic reference tracking L. Saner and B. Hefright, USA Providing decision support using insights from narrative science D. Koelle, V. Romero, P. Weyhrauch, J. Niehaus and N. Palmon, USA Leveraging topic models to develop metrics for evaluating the quality of narrative threads extracted from news stories J. Schlachter and A. Ruvinsky, USA Designing narratives to build an ecosystem A. Gibbon, USA A context-aware decision support tool for assessing and mitigating drivers of civil instability R. Mullins, A. Fouse, R. McCormack and S. Pfautz, USA	
43	Cognitive and Perceptual Considerations for Interface Design Co-Chairs: R. Proctor and K. Vu, USA	C&N
13:30-15:30 - FORUM 3	Computer accessibility: How individuals with low vision adjust the presentation of electronic text for academic reading E. Hallett, Z. Roberts, J. Sweet, M. L. Chan, Y. Sun, W. Dick, A. Monge and K. -P. Vu, USA Do eye gaze-control interfaces lead to increased inattention blindness? J. Miles, J. Cunningham and J. Sweet, USA Response-display compatibility of steering wheel left and right button-controls R. Proctor and A. Xiong, USA Effective symbology: Searching for salient symbols I. Chong, M. Ngo and K. -P. Vu, USA Displaying major risks factors associated with Android apps R. Proctor, J. Chen, C. Gates, N. Li, Z. Jorgensen and T. Yu, USA Hierarchical task analysis applied to skill transfer in heavy construction equipment operation C. Y. So, R. Proctor and P. Dunston, USA	

44	Smart Architecture in Sustainable Infrastructure I Chair: W. Bonenberg, Poland	HFSI
13:30-15:30 - FORUM 4	The trickle-up fashion effect in forecasting new trends in architecture W. Bonenberg, Poland A tale of two interfaces: Analysing end-user energy rescheduling intentions using signal detection theory G. Walker, P. Dissanayaka and T. Lansdown, UK Selected human factors in marina design M. Bilski, Poland The theoretical relationship and practice of ergonomic study the professionals involved in foreign trade on port of ships L. Vieira, D. Kaminski and G. Balbinotti, Brazil	
45	Anthropometry and Biomechanics in Design Chair: M. Soares, Brazil	ED
13:30-15:30 - FORUM 6	Anthropometric study to understand body size and shape for plus size people at work A. Masson, S. Hignett and D. Gyi, UK Anthropometric evaluation of the design of the classroom desk for the fourth and fifth grades of Benghazi primary schools A. Altaboli, M. Belkhear, A. Bosenina and N. Elfsei, Libya A comparative analysis of the ergonomic anthropometry and usability of locally designed and foreign designed smartphones B. Dyto, J. L. Guerrero, A. D. Lopez, N. P. Rasco and B. Custodio, Philippines Principles to develop size ranges of products with ergonomic requirements using a robust design approach J. Lotz, J. Würtenberger, T. Freund and H. Klobardanz, Germany Ergonomics design research on writing tools for children L. Liu, X. Cui and H. Dong, China	
46	Systems Approach to Healthcare Co-Chairs: B. Bidassie and R. Monte, USA	HC
13:30-15:30 - FORUM 7	An application of systems redesign-lean methodology to hand hygiene compliance C. Darris and J. Parker, USA Developing a one-stop shop portal T. Amburgy, USA Safer systems, safer care: Bringing the tools and strategies to clinical service areas through applied patient safety programs T. Bagian, N. Lightner and K. Jacobs, USA Cancer care collaborative tools and human factors A. Howard, USA Safety and quality of maternal and neonatal pathway: A pilot study on the childbirth checklist in 9 Italian hospitals S. Albolino, G. Dagliana, M. Meda, F. Ranzani and M. Tanzini, Italy	

47	Healthcare Devices I Co-Chairs: V. Duffy and N. Lightner, USA	HC
13:30-15:30 - FORUM 8	Automated decompression table for the individual and targeted treatment of disc herniation K. -H. Huynh, U. Müller, N. Feller, M. Schiffmann and S. Kamp, Germany Research on the cleaning efficacy of micro-bubbles on dental plaque P.-J. Lin, M.-C. Chuang and S.-J. Lin, Taiwan Hybrid BCI coupling EEG and EMG for severe motor disabilities J. Rouillard, A. Duprès, C. Coat, M.-H. Bekaert, F. Cabestaing, S. Leclercq, C. Lecocq, C. Piau and J. -M. Vannobel, France Use of a novel imaging technology for remote autism diagnosis: A reflection on experience of stakeholders U. Reischl, R. Oberleitner and N. Nazneen, USA Ergomedical Design: A great tool to innovate beyond the existing standards. Application on two sports product examples: Earplug and helmet F. Handgraaf, France	
48	Models and Knowledge-Based Solutions for Governance in Smart Service Systems Co-Chairs: C. Bassano, Italy, and J. Spohrer, USA	HSSE
13:30-15:30 - FORUM 9	Models and knowledge-based solutions for governance in smart service systems C. Bassano, Italy, J. Spohrer, USA, and P. Piciocchi, Italy An intentional approach to the engineering of knowledge-intensive service systems L. Lessard, Canada Fuzzy consensus model for governance in smart service systems F. Calza, M. Gaeta, V. Loia, F. Orcioli, P. Piciocchi, L. Rarità, J. Spohrer and A. Tommasetti, Italy/USA Analysis of open innovation intermediaries platforms by considering the smart service system perspective M. Perano, T. Abbate, A. Gaeta, S. Miranda and M. Lepore, Italy Developing a framework for measuring effectiveness of sustainability communications through corporate websites A. Siano, P. Piciocchi, F. Conte, A. Vollero, M. Palazzo, M. Siglioccolo, D. De Luca and S. Amabile, Italy City of things: A smart city living lab for domain-driven service innovation D. Meersman, Belgium	
49	Human-Computer Interactions in Healthcare Co-Chairs: L. Marks and L. M. Mazur, USA	HSSE
13:30-15:30 - FORUM 10	Towards safe, accessible, and efficient electronic medical record (EMR): Exploration of efforts at Epic J. Campbell and L. Mazur, USA Adopting human centered design to enhance patient safety and improve quality of life N. Lebbos, R. Oyung and L. Mazur, USA	

50	Work Measurement: Case studies in Manpower Utilization and Line Balancing Chair: A. Matias, Philippines	MFG
13:30-15:30 - FORUM 13	Manpower utilization in the powder coating production of Uni-Pacific Powder Coat Corporation E. Rustico and A. Matias, Philippines Manpower utilization in the hotdog meat processing production of a meat processing company Y. Kurata, A. Matias and L. Grepo, Philippines Increase of manufacturing lead time using time and motion principles L. Grepo and K. Santos, Philippines An assessment of the new 8-piece pallet welding process in a plastics manufacturer L. E. Tan, Philippines A study on the human factors for a Smart Cart system Y. S. Chang, E. Y. Lee and M. K. Kim, Korea	
51	Physical Ergonomics and Human Factors I Co-Chairs: Z. Roja and H. Kalkis, Latvia	PEHF
13:30-15:30 - FORUM 15	Measuring muscle fatigue in relation to the workload of health care workers Z. Roja, H. Kalkis and I. Roja, Latvia Economic analytical methods for work-related MSD cost prediction H. Kalkis, Latvia Barriers To efficaciously implementing patient handling devices A. Garg and J. Kapellusch, USA Applicability of affordable sEMG in ergonomics practice M. Reinvee, P. Vaas, J. Erelina and M. Pääsuke, Estonia Potential and limitations of motion capture based ergonomics tools G. Szabó, Hungary Regression analysis of age effects during prolonged work with head-mounted displays M. Wille, A. Mertens, L. Adolph, S. Theis and S. Wischniewski, Germany Electromyography analysis: Comparison of maximum voluntary contraction methods for anterior deltoid and trapezius muscles S. Al-Qaisi and F. Aghazadeh, Lebanon/USA	
52	Aspects of Driver - Vehicle Interface in Automated Cars I Chair: I. Grabarek, Poland	R&R
13:30-15:30 - FORUM 11	Driver with varied disability level – vehicle system: New design concept, construction and standardization of interfaces I. Grabarek and W. Choromanski, Poland Simulation and experimental study of selected parameters of the multifunction steering wheel in the view of users' abilities and accuracy of vehicle maneuvers I. Grabarek, W. Choromanski and M. Kozlowski, Poland Driver support by a vibrotactile seat matrix – recognition, adequacy and workload of tactile patterns in take-over scenarios during automated driving M. Schwalk, N. Kalogerakis and T. Maier, Germany Discovering driver-vehicle coordination problems in future automated control systems: Evidence from verbal commentaries V. Banks and N. Stanton, UK Steering controller identification and design for human-like overtaking Y. Zhang, R. Hoogendoorn, M. Mazo, Jr. and H. Hellendoorn, The Netherlands Ergonomic design of the vehicle motion in an automated driving car A. Lange, M. Albert and K. Bengler, Germany	

53	Motorcycles Chair: G. Walker, UK	R&R
13:30-15:30 - FORUM 14	Usage of wireless Myon 320s surface electromyography (sEMG) system in capturing motorcyclist muscle activities on real roads: A case study H. Rashid, M. Izzat Nor Ma'arof, W. Muhammad Syahmi Wan Fauzi, A. Rahman Omar, S. Che Abdullah, R. Jaafar, R. Haron and Z. Mahmud, Malaysia Motorcyclists reaching posture database for different motorcycle models W. Muhammad Syahmi Wan Fauzi, M. Izzat Nor Ma'arof, H. Rashid, A. Rahman Omar, R. Jaafar and Z. Mahmud, Malaysia An ergonomic analysis of tricycle sidecars in Quezon City N. J. Dorado, P. D. Fabros and C. A. Rupisan, Philippines An adjustable tank cover for an established motorcycle test rig utilizing rib and spine chassis (RISCTM) concept W. M. Syahmi Wan Fauzi, H. Rashid, M. I. Nor Ma'arof, A. R. Omar and R. Jaafar, Malaysia Smart vital signs and accident monitoring system for motorcyclists embedded in helmets and garments for advanced eCall emergency assistance and health analysis monitoring V. Melcher, R. Maestre Ferriz, C. Hofmann, J.-M. Nacenta, J. van Gent, D. Kusi, F. Diederichs and B. Žagar, Germany	
54	Science and Education in the Conceptual Era Co-Chairs: T. Marek and A. Szopa, Poland	HFBMS
13:30-15:30 - FORUM 19	Proactivity in a career as a strategy of intentional construction of an individual future in the world oriented to a global change A. Cybal-Michalska, Poland Preferences for online course delivery in higher education among students with autism D. Satterfield, C. Lepage and N. Ladjahasan, USA Bringing computational thinking to stem education S. Swaid, USA A persona based extension for massive open online courses in accessible design S. Kelle, A. Henka and G. Zimmermann, Germany Proposal of a new model of university library in the twenty-first century M. Alfaro, Mexico	
55	Usability and Assistive Technology I Chair: B. Janny, Germany	EMUSP
13:30-15:30 - FORUM 21	Technology acceptance and usability in the older people: The happy ageing experience R. Bevilacqua, E. Felici, F. Marcellini, M. Di Rosa and V. Stara, Italy Optimization of hand-operated human-machine interfaces for the elderly through internal grip force measurement B. Janny and T. Maier, Germany My accessible room is not accessible, applying human factors principals to enhance the accessibility of hotel rooms W. Wazzan, Saudi Arabia A tangible interface-based application for teaching tactual shape perception and spatial awareness sub-concepts to visually impaired children R. Jafri, A. Aljuhani and S. Ali, Saudi Arabia/USA Assistive technology and user-centered design: Emotion as element for innovation S. Mallin and H. Carvalho, Brazil	

56	Issues in Human-Systems Integration Chair: K. Light, USA	HFUS
13:30-15:30 - FORUM 22	Intelligence and neuropsychological predictors of elite MQ-1 predator B. Thompson and W. Chappelle, USA Cognitive loading and aerodynamic considerations in unmanned aerial vehicle systems refueling operations S. Holley and I. McAndrew, USA Comparison of measures used to assess the workload of monitoring an unmanned system in a simulation mission G. Teo and L. Reinerman-Jones, USA A proposed approach to understanding reliability and human factors impacts on unmanned systems using operational availability modeling and simulation methods K. O'Brien, USA	
57	Physical Ergonomics and Human Factors II Co-Chairs: P. Ray and R. Parida, India, and G. Bedny, USA	PEHF
13:30-15:30 - FORUM 16	Ergonomic risk assessment among call center workers W. Poochada and S. Chaiklieng, Thailand An investigation of operator performance in all-terrain vehicle (ATV) handling and control J. Schwark, G. Fowler, R. Larson and R. Rauschenberger, USA Biomechanical modelling of manual material handling tasks: A comprehensive review R. Parida and P. Ray, India Ergonomic analysis of construction jobs in India: A biomechanical modelling approach P. Ray, R. Parida and S. Sarkar, India The stacking action in autoclave molding and a process judgment analysis of the worker T. Uchida, H. Hamada, K. Kuroda, A. Endo and M. Migaki, Japan Factors influencing construction ergonomic performance in India R. Parida and P. Ray, India	
58	Affective and Pleasurable Design I Chair: A. Liem, Norway	APD
13:30-15:30 - FORUM 17	Evaluating the user experience of playful interactive learning interfaces with children A. Alhussayen, E. Mansor and W. Alrashed, Saudi Arabia A novel biofeature-based compound-Kansei engineering method for wearable product design S. Smith and C. -L. Leung, Taiwan Theoretical structure of metaphors in emotional design W. Chung, Canada Evaluating player task engagement and arousal using electroencephalography T. McMahan, T. Parsons and I. Parberry, USA Experiencing shared and individual ownership of products and services: A value creation perspective A. Liem, Norway Affective biometrics: Who are you and how are you feeling? G. Washington, USA	
15:30 - 16:00 Refreshments will be provided in Forum 24		

59	Affective and Pleasurable Design II Chair: C. Shin, USA	APD
16:00-18:00 - FORUM 1	Toys as enabler for self-producing social systems - A dimension within play and experienced pleasure T. Gulden, Norway Meeting non-technical needs in the design of assistive products Y. M. Choi, USA The effect of emotional response to sustainability in consumer acceptance of polymer products K. Muenchinger, USA Searching for the sweet-spot: Demonstrating the contribution of shape analysis tools in stimuli creation C. Ranscombe, P. Kinsella and J. Blijlevens, Australia Evaluation of assistive mobility product for the Japanese elderly by the Kansei sheets N. Elokla and Y. Hirai, Japan Exploring the emotional experience of the user and designer, both in the design process and classroom C. Shin and J. Thomas, USA Case study: Use of online tools in the classroom and their impact on industrial design pedagogy J. Rivera-Chang, USA	
60	Perception, Awareness and Teamwork in Aviation Operations Co-Chairs: M. Biella, Germany, and J. Mercer and T. Edwards, USA	AVI
16:00-18:00 - FORUM 2	Follow-the-greens: Towards increased safety and efficiency by the use of airfield ground lighting (AGL). Results from a SESAR real time simulation M. Biella, J. Zilz, H. Lafferton, F. Donello and B. Vieten, Germany Target detection with helmet-mounted displays in low visibility helicopter operations P. Knabl, S. Schmerwitz and H. -U. Doehler, Germany Real time validation of online situation awareness questionnaires in simulated approach air traffic control J. Kraemer and N. -M. Suess, Germany The development of an experimental research project to validate pilot behavioural self-reporting into a multi-crewed military transport operational tool S. Burdekin, Australia Constraint analysis for aircraft landing in distributed crewing contexts J. Varga, C. Iacob, M. Grote and N. Stanton, UK Stochastic evaluation of capacity and demand management of the supply chain of airline industry: The case of airlines of the AEA for flights of Europe-Africa Y. Tesfay, Norway Modelling the causes of the Bullwhip effect and its implications to Theory of Organizational Coordination Y. Tesfay, Norway	
61	Cross Cultural Aspects in Organizational Dynamics Chair: M. Alama, USA	CCDM
16:00-18:00 - FORUM 3	A comparative study on organizational stress in South Asian cultures U. Asgher, T. Ali, R. Ahmad, R. Taiar and R. Iosif Moraru, Pakistan/France/Romania Creating high performing teams of leaders M. Prevou, USA Anthropological insights into corporate decision making and corporate conflict M. Alama, USA Cross cultural report of values and decisions in the multi round Ultimatum game and the Centipede game E. Nouri and D. Traum, USA A review and update on the international status and usage of cross-culturally adapted versions of the Oswestry Disability Index P. Sheahan, S. Fischer and E. Nelson-Wong, Canada Historical patterns in ancient and contemporary migration phenomena in the Mediterranean area U. Asgher and G. Banhegyi, Pakistan	

62	Computational Tools for Analysis and Training Chair: J. Folsom-Kovarik, USA	CCDM
16:00-18:00 - FORUM 7	A methodology for capturing and fusing unconscious cognition with computation P. Koola, P. Benjamin, S. Schatz and G. Colombo, USA Motivating narrative representation for training cross-cultural interaction R. Wray, J. Folsom-Kovarik, A. Woods and R. Jones, USA Computational modeling of social interactions A. Divakaran, B. Lande, B. Siddiquie, A. Tamrakar and M. Amer, USA Fragility and destabilizing protest: combining event and structural data for improved forecasts M. Garces, B. Levey and I. Lustick, USA Development of air traffic controller training program for new technology system implementation C. Surakitbanharn, USA/Thailand	
63	Applied Digital Human Modeling I Chair: A. Luximon, Hong Kong	ADHM
16:00-18:00 - FORUM 6	Theoretical model of dynamic foot model A. Luximon, Hong Kong A new composite method for human foot structural modeling A. Luximon and K. Zhao, Hong Kong Predicting human performance differences on multiple interface alternatives: KLM, GOMS and CogTool are unreliable W. Jorritsma, P.-J. Haga, F. Cnossen, R. Dierckx, M. Oudkerk and P. Van Ooijen, The Netherlands Capturing human motion in natural environments Z. Cheng, A. Ligouri and R. Fogle, USA Three-dimensional (3D) analysis of knee shape for designing a knee-pad P. Li, B. Corner, M. Hurley, C. Powell and A. LaFleur, USA	
64	Ergonomics in the Real World II Chair: J. Smallwood, South Africa	ED
16:00-18:00 - FORUM 8	How cockpit design impact on pilot's attention distribution and perceived workload during aiming a stationary target W. -C. Li, C.-S. Yu, G. Braithwaite and M. Greaves, UK/Taiwan The study of ergonomics and form in metal tallow-burners of Seljuk period. Case study: The objects of Reza Abasi Museum in Iran M. Sohrabi Nasirabadi and S. Vafaei, Iran Mental model method and its application: A case of CMF network database framework design J. Liu, P. R. China Ergonomics / human factors applied in formative research of industrial design faculty, Universidad Pontificia Bolivariana L. M. Saenz, G. Sevilla and E. Patiño, Colombia Designing for construction ergonomics J. Smallwood, South Africa	

65	Consumer Product Design Chair: P. Arezes, Portugal	ED
16:00-18:00 - FORUM 5	Design of an innovative mattress to improve sleep thermal comfort based on sleep positions S. -H. Tan, T.-Y. Shen and F. -G. Wu, Taiwan Innovation and ergonomics consideration for female footwear design L. -Y. Lin and C. -H. Chen, Taiwan Comparison of sleep quality and thermal comfort for innovative mattress design F. -G. Wu, T.-Y. Shen and S. H. Tan, Taiwan Visualization and comprehension of opening instructions in child-resistant packaging G. Bonfim and L. Paschoarelli, Brazil Evaluation of two PET bottles caps: An exploratory study D. Silva, G. Bonfim, D. Fabio, A. Alves, E. Merino, G. Merino, L. Garcia and L. Paschoarelli, Brazil Ergonomic analysis employed on child furniture development for low income (Class C) population in Brazil T. L. Soares, A. Arruda and K. Araújo, Brazil	
66	Co-Production of Healthcare Outcomes: How Patients and Providers Contribute to Quality And Costs Co-Chairs: S. Kwan and R. Mantecon, USA	HC/HSSE
16:00-18:00 - FORUM 4	Co-production in patient care settings: Quality control perspectives that influence satisfaction with the service L. Freund, S. Kwan and V. Murugesan, USA Digitization of patient services for co-creating value both inside and the outside hospital M. Tanniru, USA Value co-creation in health service systems H. Tong, L. Zhang, O. Demirel, B. C. Lee, H. Wu, Y. Yih, B. Bidassie and V. Duffy, USA Deterministic and stochastic on quality services in the education and health media S. Elshourbagy and Y. Alzubaidib, Saudi Arabia Business process assessment in VA consolidated patient account centers S. Eapen, M. Hsu and G. Black, USA A proposal of the ontology based method to identify adverse effects taking account of expression granularity in patients' symptom explanation K. Yokokawa and M. Kimura, Japan Application of human factors methods for systems improvement knowledge management in the VHA L. Byrd, USA	
67	Human Factors in Systems Engineering II Co-Chairs: D. Dunkle and A. Apte, USA	HFSSE
16:00-18:00 - FORUM 9	Human factors aspects in test cases formalization B. Castro, and P. Aquino, Junior, Brazil Incorporating relevant usability factors into critical interactions D. Dunkle, USA Selecting video analytics using cognitive ergonomics: A case study for operational experimentation N. Berry, W. Prugh, C. Lunkins, J. Vega, R. Landry and L. Garciga, USA Beneath a learning management system - understanding the human information interaction in information systems M. Dzandu and Y. Tang, UK A cooperative automation concept for user-oriented support of air target identification E. Özyurt, F. Flemisch and B. Döring, Germany Delivering engineering standards: A usability study of the commodity desktop K. Cichomska, A. Kumar, C. Cadas and M. Robinson, UK Human factors in the design and evaluation of bioinformatics tools N. Alageel, A. Al-Wabil and G. Badr, Saudi Arabia	

68	Human Centered Work and Production Organization Co-Chairs: W. Bauer and M. Schenk, Germany	MFG
16:00-18:00 - FORUM 10	WorkDesigner: Consulting application software for the strain-based staffing and design of work processes U. Müller, P. Gust, N. Feller and M. Schiffmann, Germany Transforming to a hyper-connected society and economy – towards an “industry 4.0” W. Bauer, S. Schlund, M. Hämmerle and C. Vocke, Germany Design of a simulation model for the assessment of a real-time capable disturbance management in manufacturing supply chains M. Schenk, G. Schuh and N. Servos, Germany Evaluation of Japanese metal wire network “Kana-ami” based on three-dimensional analysis Z. Wang, K. Tsuji, T. Tsuji, Y. Takai, A. Goto and H. Hamada, China Motion analysis of car mechanic on spray gun handling of automobile repair S. Ikemoto, M. Prémillieu, Y. Takai, A. Goto, T. Kobayashi, H. Nishimoto, H. Hamada and M. Liao, Japan Comparison between expert and beginner on calligraphy letter’s characteristic Z. Wang, M. Liao, R. Hagihara and Z. Maekawa, Japan	
69	Occupational Risk Prevention Co-Chairs: M. Corticeiro Neves, Portugal, P. Carvalho, Brazil, and J. Bosman, South Africa	SMHF
16:00-18:00 - FORUM 16	Occupational injuries amongst firefighters in a metropolitan fire and rescue service J. Bosman, N. Naidoo and L. Christopher, South Africa Occupational accidents due to stepladders in Japan: Analysis of industry and injured characteristics A. Sugama and A. Ohnishi, Japan Workplace adaptation of people with disabilities in the construction industry L. Martins, B. Barkokébas, Jr. and B. Guimarães, Brazil Quantitative analysis of the construction industry workers’ perception of risk in municipalities surrounding Salvador A. Carriço, A. Gonçalves Filho and A. Gomes, Brazil Risk assessment system based on integrating injury data of multiple schools K. Kitamura, K. Imai, Y. Nishida, H. Takemura and T. Yamanaka, Japan Risk assessment on Filipino construction workers J. Renier Domingo, T. De Pano, D. Aily Ecat, N. Sanchez and B. Custodio, Philippines Ergonomic assessment of the lifting tasks performed by North Indian workers in LPG cylinder distribution supply chain S. Kapur and L. Singh, India	
70	Design and Perception Co-Chairs: M. Lehto and R. Doherty, USA	PEHF
16:00-18:00 - FORUM 13	Informational ergonomics: A study on how symbols are used in graphic marks J. C. R. Placido da Silva, V. Friso and L. Paschoarelli, Brazil Narrative and visual cinematic strategies in communication design C. Figueiredo, Portugal Predicting ICD9-CM-diagnostic codes based on accident narratives using machine learning methods and barell matrix T. Sinha, G. Nanda and M. Lehto, USA Sensory modalities and mental content in product experience P. Saariluoma, J. Silvennoinen, J. Jokinen, R. Rousi and P. Perälä, Finland Keeping users in the flow mapping system responsiveness with user experience R. Doherty, USA Evaluation of bicyclist perceptions of current and future transportation infrastructure to inform decisions aimed at increasing intermodal transportation in Las Vegas, NV metropolitan area C. Coughenour, A. Paz, A. Singh and K. Larson, USA Ergonomic analysis of a clothing modeling station I. Guimarães Souza, C. Buss Buski, E. Concepcion Batiz and A. Berretta Hurtado, Brazil	

71	Human Performance Chair: D. Meyer, Germany	PEHF
16:00-18:00 - FORUM 14	Human performance characteristics of three-finger chord sequences F. Sandnes, Norway Human factors analysis of manual gear shifting performance in passenger vehicles D. Duque and P. Aquino, Junior, Brazil The research and analysis of factors affecting critical flicker frequency M. -X. Liu, Y. Yan, Q. Xue and L. Gong, China Heart rate control for electric bicycles D. Meyer, W. Zhang, V. Senner and M. Tomizuka, Germany/USA	
72	Human Factors of Automated Driving: Truck Co-Chairs: G. Fitch, R. Hanowski and J. de Winter, USA/The Netherlands	R&R
16:00-18:00 - FORUM 11	Autonomous versus assistive: The rational role of technology in the trucking industry D. Murray, USA User experience design for driver assistive truck platooning J. Switkes, USA Commercial motor vehicle driver performance with adaptive cruise control in adverse weather G. Fitch, K. Grove, P. Hill, J. Atwood, A. DiFonzo, M. Marchese and M. Blanco, USA Interaction design for communicating system state and capabilities during automated highway driving P. Larsson, E. Johansson, M. Söderman, and D. Thompson, Sweden Heavy vehicle automation: Human factors lessons learned C. Nowakowski, S. Shladover and H. -S. Tan, USA Palm grasp micro-gestures in driver vehicle interaction Y. Jacob, S. Manitsaris, F. Moutarde, G. Lele, and L. Pradere, France	
73	Accidents and Safety I Chair: K. Plant, UK	R&R
16:00-18:00 - FORUM 18	Trend analysis of behavioral measures for predicting point in time of crash A. Murata, T. Yamaashi, K. Fukuda and M. Moriwaka, Japan Effective performance measures for highway patrol agencies to change poor driver behaviour M. Jalili, M. Ozbek, J. McCarthy and E. Kohlman Rabbani, USA Standard reactions – how do drivers react in critical driving situations? S. Weber, K. Blum, A. Ernstberger and B. Färber, Germany Hazard perception assessment – how much ecological validity is necessary? S. Malone and R. Bruenken, Germany Investigating tram-on-tram collisions in an Australian metropolitan setting A. Naweed and J. Rose, Australia	
74	Safety and Health Co-Chairs: Z. Shafieyoun, Italy, and L. Cruz Rivero, Mexico	S&O
16:00-18:00 - FORUM 17	Children's use of colors in designing safety signs K. W. M. Siu, Y. L. Wong and M. S. Lam, Hong Kong A quantitative assessment of low back pain in dentistry R. Pope-Ford, USA Evaluation of risks in the forest terrestrial transportation G. Kuhn, S. Kolodziej and E. Cruz, Argentina Fuzzy logic and RULA method for assessing the risk of working L. Cruz Rivero, R. García Rodríguez, M. Del Rosario Pérez, C. Mar and Z. Juárez, Mexico Affecting emotion through healthcare design Z. Shafieyoun and S. Basapur, Italy/USA	

75	Ergonomics Modeling and Usability Evaluation I Co-Chairs: A. A. Nocum, Philippines, and J. Nelles, Germany	EMUSP
16:00-18:00 - FORUM 19	Ergonomic evaluation and design of a mobile application for maternal and infant health for smartphone users among lower-income class Filipinos A. A. Nocum, J. M. Baltao, D. R. Agustin and A. J. Portus, Philippines User centered evaluation of interactive data visualization forms for document management systems A. Heinicke, C. Liao, K. Walbaum, J. Bützler and C. Schlick, Germany Retail in a multichannel world: Beyond “online vs. offline” usability research A. Iouguina, USA Aspects of usability and accessibility of the pedestrian overpass at the Clinics Hospital in Recife / Brazil T. de Jesus Silva, Brazil Improving communication for encapsulated personnel in high audible noise operational environments through enhanced speech intelligibility L. Garrett, K. Pollard and P. Tran, USA Analysis of the inclusion of digital technology BIM and QR code in tactile maquette development for aid in spatial accessibility M. Dias, A. Perobelli and J. Castañon, Brazil	
76	Measurement in Safety Focused Research Co-Chairs: L. Reinerman-Jones and N. Hughes, USA	HFOGN
16:00-18:00 - FORUM 15	Exploring measures of human performance in the main control room A. Fernandes and P. Øivind Braarud, Norway Methodological implications of confederate use for experimentation in safety-critical domains R. Leis and L. Reinerman-Jones, USA Interview to questionnaire comparison of workload measurement on nuclear power plant tasks S.. Ogreten and L. Reinerman-Jones, USA Traveling to the future: Human factors and ergonomics integration, simulation, field testing and strategic partners in support of heavy vehicle research D. Gertman, Z. Spielman, S. Wold and J. Brown, USA Investigating non-technical skills through team behavioral markers in oil and gas simulation-based exercises S. Moffat and M. Crichton, UK Ergonomics applied to water treatment plants: Process improvements F. Ferraz, S. Hecksher, H. Guida and E. Braga, Brazil Reflections on the largest project in progress in a corporate ergonomics program S. Hecksher, F. Ferraz, H. Guida and E. Braga, Brazil	
77	Human Factors, Business Management and Society: Business and Management Co-Chairs: M. Salo and H. Vanharanta, Finland	HFBMS
16:00-18:00 - FORUM 22	The company democracy model for the development of intellectual human capitalism for shared value H. Vanharanta and E. Markopoulos, Finland Woven strategy approach and shared value creation M. Salo, Finland Proactive vision for strategy making H. Vanharanta and J. Kantola, Finland Information as a business resource A. Lipitsäinen, Finland Humanistic aspects of management by values (MBV) D. Konopka, Poland Ontological importance of the time factor in contemporary management processes A. Herman, Poland	

78	Emotion in Experience Design Chairs: A. G. Ho, Hong Kong	APD
8:00-10:00 - FORUM 1	Mi Piacce Methodology: A pragmatic method used for an analysis of pleasures provided by shoe design that developed for disabled wearers M. Roncoletta, Brazil Themed passenger carriages: Promoting commuters' happiness on rapid transit systems through ambient and aesthetic intelligence A. S. Rui, D. Plewe and C. Röcker, Singapore/Germany The emotional issues in virtual worlds – how players perceive and behave emotionally Y. -C. Hsu, S.-W. Huang, W.-C. Lin and W. -C. Lin, Taiwan A study on the form and user's behavior of public chair in national Taipei University of Technology T. -L. Yeh and C. -J. Huang, Taiwan New way to optimize the design process from emotion perspectives A. Ho, Hong Kong	
79	Controller, Pilot and Dispatch Tools Co-Chairs: J. Mercer and T. Edwards, USA	AVI
8:00-10:00 - FORUM 2	Evaluation of a recommender system for single-pilot operations A. -Q. Dao, K. Koltai, S. Cals, S. Brandt, J. Lachter, M. Matessa, D. Smith, V. Battiste and W. Johnson, USA Effect of schedule conformance tools for delivering terminal aircraft to departure fixes on task and workload distribution among adjacent sectors J. Kraut, E. Chevalley, N. Bienert, F. Omar, B. Parke, A. Borade, H.-S. Yoo and E. Palmer, USA Pilot situation awareness and its implications for single pilot operations: Analysis of a human-in-the-loop study S. Brandt, J. Lachter, V. Battiste and W. Johnson, USA Tool-enabled changes in terminal air traffic controller task and workload distribution E. Chevalley, J. Homola, P. Lee, N. Smith and H. -S. Yoo, USA Conflict detection in a human-in-the-loop air traffic control simulation J. Mercer, A. Gomez, J. Homola, L. Martin, N. Bienert, J. Kraut, V. Gujral, C. Brasil and T. Prevot, USA	
80	Cross-Cultural Issues in Stability Operations Chair: E. Çakit, Turkey	CCDM
8:00-10:00 - FORUM 3	Understanding patterns of infrastructure development in the active war theater of Afghanistan over the period 2002-2010 E. Çakit, Turkey and W. Karwowski, USA We don't know what we don't know - but can learn: Lessons learned from Afghanistan on women, peace and security S. Scanlon, USA Application of personality theories for the design and development of cross-cultural decision-making tools L. Stern, B. Prue and J. Pfauz, USA At the trough of the wave: What has ten years of investment in cross-cultural decision making bought the U. S. Government? B Connable, USA Sociocultural—Geospatial Anthropological Portal (SC-GAP): Enhanced sociocultural understanding through crowdsourced service member narratives M. Jaye, M. Aschenbrenner, J. Koo, D. Toshner and K. Tsolis, USA	

81	Factors Shaping Performance of Cyber Defenders Co-Chairs: R. Abbott and C. Forsythe, USA	C&N
8:00-10:00 - FORUM 6	Semantic log file analysis of cyber trace data R. Abbott, J. McClain, N. Kevin and B. Anderson, USA Cyber security: A sociotechnical systems perspective B. Sims, USA Emergent relationships between team member interpersonal styles and cybersecurity team performance J. Cowley, N. Kevin and B. Anderson, USA Augmenting cyber defender performance and workload through sonified displays V. Mancuso, E. Greenlee, G. Funke, A. Dukes, L. Menke, R. Brown and B. Miller, USA Facilitation of forensic analysis using a narrative template C. Forsythe, S. Hopkins, A. Silva and A. Wilson, USA Performance factors in competitive cyber security exercises J. McClain, A. Silva, B. Anderson, N. Kevin, R. Abbott, C. Forsythe and G. Emmanuel, USA	
82	Sustainable Design I Chair: M. da Silva, Portugal	ED
8:00-10:00 - FORUM 7	All about words [on design]: On glossolalia project L. Ferrão, Portugal Ergonomics, inclusiveness and design for an elderly home garden C. Nunes, Portugal Ergonomics and sustainable design: A case study on practicing and teaching A. Moreira da Silva, Portugal Product portfolio management in Brazilian technology-based companies: Case studies in medium and large companies D. Jugend and J. Leoni, Brazil Global communities, biotechnology and sustainable design – natural / bio dyes in textiles C. Carvalho and G. Santos, Portugal	
83	Systems and Simulation Co-Chairs: B. Bidassie and V. Duffy, USA	HC/ADHM
8:00-10:00 - FORUM 4	Ergonomic analysis and simulation in department of ophthalmology N. Vujica Herzog, R. Vujica Beharic, A. Beharic and B. Buchmeister, Slovenia Implementing service engineering in healthcare services: The case of Neonatal Intensive Care Unit (NICU) department G. Vitner, Israel Human factors approach for enhancing older population's experience using augmented reality S. Liang, UK Workload associated with donning/doffing and performing clinical care tasks with personal protective equipment M. Feldman, T. Yang, N. Appelbaum, J. Greer, C. Gaw and G. Peterson, USA Simulation modelling in healthcare: Challenges and trends S. Almagoshi, Saudi Arabia Activation of the VA Southern Nevada Medical Center: In situ simulation paradigm C. Graham, USA Identifying human factors issues through visiting Gemba C. Fagan, USA	

84	Systems Engineering Applications I Co-Chairs: J. Eaton, USA, and D. Tuffley, Australia	HFSSE
8:00-10:00 - FORUM 8	A systems architecture and design structure matrix (DSM) analysis of the joint precision airdrop system (JPADS) J. Eaton, USA Speed innovation in intelligent transportation systems L. Dickson-Bull and R. Felice, USA Applying ISO/IEC 15504/24774-Compliant process reference models to 'soft' organizational problems D. Tuffley, Australia Intelligent job matching with self-learning recommendation engine M. F. Koh and Y. C. Chew, Malaysia A notional model of creation, maintenance, and enrichment of human capital D. Folds, USA Network exploratory analysis on subway transportation systems against complex threats including a human factors perspective S. Nistor, M. Dehmer and S. Pickl, Germany Petrobras commissioning process tool - How Maximo can manage, improve and integrate complex capital M. Fieschi, Brazil	
85	Service Design for Value Co-Creation and Transformation Chair: C.-F. Yang, Taiwan	HSSE
8:00-10:00 - FORUM 9	The design before innovation: An exploratory study of web-based self-services C. -F. Yang, C.-S. Wu, Y.-H. Huang, T.-J. Sung and P. -L. Chen, Taiwan Development of emotional intervention strategy framework focused on the socio-pleasure for pro-environmental behaviors Y. H. Lee and E. C. Jung, Korea Co-creating social innovation with academic, commercial and public partners – lessons learned from The Netherlands Y. Lu, The Netherlands A service innovation model of the co-creation of value by multi-stakeholder: Evidence from Maokong's service design J. -J. Chang and T. -J. Sung, Taiwan Designing for technology acceptance in an ageing society through multi-stakeholder collaboration P. Jia, Y. Lu and B. Wajda, The Netherlands Computer-related causal attributions: The role of sociodemographic factors A. Niels, S. Guzka and M. Janneck, Germany	
86	Centrality of Human Face: Deconstructing Service & Service Management Chair: U. Narain, India	HSSE
8:00-10:00 - FORUM 10	Uber: A case of service fiduciary U. Narain and S. Mhatre, India Bollywood: Entertainment as opiate of the masses S. Mhatre and U. Narain, India A human-centered credit-banking system for convenient, fair and secure carpooling among members of an association H. -S. Tsao and M. Eirinaki, USA Ethic centric operational model of a service organization S. Parikh, India	

87	Fatigue, Accessibility and Performance in the Maritime Environment Co-Chairs: D. Gray, USA, and G. Di Bucchianico, Italy	MAR
8:00-10:00 - FORUM 5	Investigating fatigue in marine accident investigations B. Strauch, USA Multidisciplinary study of biological parameters and fatigue progression in Quay crane operators A. Medda, C. Pinna, P. Fadda, M. Meloni, M. Pau, B. Leban, L. Lecca, A. Delrio and S. Mucelli, Italy Are a “can do” attitude and a can of Red Bull enough? Workload and fatigue in high-stakes, high-demand carrier sortie operations D. Kern and K. Culley, USA Fortitude vs. fatigue in the maritime industry, training resilient mariners J. Salyers, USA Sleep and performance in operational maritime environments: Working conditions at sea N. Shattuck and P. Matsangas, USA Countermeasures for managing fatigue: Challenges for the future K. Reid, USA Design for inclusion. Differences and similarities between DFA and UD in the field of sailing yacht design J. Lagatta and M. Di Nicolantonio, Italy	
88	Human Factors Applications Chairs: P. Carvalho, Brazil	SMHF
8:00-10:00 - FORUM 14	Implications for behavioral inhibition and activation in evacuation scenarios: Applied human factor analysis V. Wagner, W. Kallus, N. Neuhuber, M. Schwarz, H. Schrom-Feiertag, S. Ladstaetter and L. Paletta, Austria CQC as an element of aesthetic control in research of architectural space P. Marynczuk, Poland Use dosimetry virtual tool for security studies physics and nuclear D. Machado, P. V. R. Carvalho, A. C. A. Mól, M. C. Vidal, D. Galvão and A. Cotelli, Brazil Designing an ergonomic chair for pedicurists and manicurists in Quezon City, Philippines R. Alojado, K. M. Lasala, P. L. Marigomen and B. Custodio, Philippines Study of potentiation of the negative effects of simultaneous exposure of the human body to noise and vibrations M. Corticeiro Neves, R. Canotilho de Almeida and H. Ribeiro, Portugal Burnout syndrome within Portuguese volunteer firefighters P. Gaspar, C. Municipe and M. C. Neves, Portugal	
89	Product Design Chair: M. Carvalho, Portugal	PEHF
8:00-10:00 - FORUM 15	Ergonomic and anthropometric evaluation of a footwear modification: A case study R. M. Lima, P. Arezes and M. Carvalho, Portugal Pillow shape design to enhance the sleep quality of middle-aged groups X. -Y. Lin and F. -G. Wu, Taiwan Impact of accuracy and latency on mean opinion scores for speech recognition solutions J. Scovell, M. Beltman, R. Doherty, R. Elnaggar and C. Sreerama, USA Model-based adaptive bridge design in the maritime domain. The Cascade project D. Javaux, A. Luedtke, E. Adami, P. Allen, C. Denker, T. Guldhammer Mikkelsen, P. Lohrmann, H. Mextor, R. Sternon, C. Sobiech, P. Vanderstraeten, C. van Goens and G. Vroonen, Belgium/UK An immersive virtual approach to design for all M. Delangle, France	

90	Analysis Methods I Chair: A. Roberts, UK	R&R
8:00-10:00 - FORUM 11	Comparing occlusion method by display blanking to occlusion goggles M. Krause, N. Donant and K. Bengler, Germany The dynamic signalization of calamity routes – a driving simulator study J. Cornu, K. Brijs and T. Brijs, Belgium Human reliability assessment under uncertainty - towards a formal method S. Rangra, M. Sallak, W. Schön and F. Vanderhaegen, France Assessing steering feel in truck drivers: Evaluation criteria and rating scale A. Boller and E. Wohlfarth, Germany	
91	Driving Performance and Public Transport I Chair: R. McIlroy, UK	R&R
8:00-10:00 - FORUM 17	Working conditions of bus drivers in a large Brazilian metropolis Anastacio Goncalves Filho, M. Souza Rocha, A. Meneses Oliveira, U. Costa dos Santos, J. Santos de Jesus, J. Ramos Costa, Brazil An ergonomic study on the UP-Dillman jeepney drivers' workspace and driving conditions P. J. Flores, M. C. Coz, K. L. Hernandez and A. J. Jean Portus, Philippines Assessment of occupational hazards contributing to work-related musculoskeletal disorder of Filipino pedicab drivers C. Cuenca, A. F. de Asis, A. Dizon, A. Halos and B. Custodio, Philippines Human factors and ergonomics in transportation control systems K. Dobson, Canada Encouraging eco-driving with multisensory information R. McIlroy and N. Stanton, UK	
92	Social and Occupational Ergonomics I Co-Chairs: A. Polak-Sopinska, Poland, and S. Singh, India	S&O
8:00-10:00 - FORUM 18	Effect of time pressure on dynamic visual search performance R. Yu, L. Yang, X. Guo and Y. Zhang, China The role of expectation in comfort perception: The mattresses' evaluation experience A. Naddeo, N. Cappetti, M. Vallone and R. Califano, Italy HR staff awareness of disability employment as input to the design of an assessment tool of disability management capacity in large enterprises in Poland A. Polak-Sopinska, Z. Wisniewski, and M. Jedraszek-Wisniewska, Poland Investigation of work-related musculoskeletal disorders (MSDs) in warehouse workers in Saudi Arabia A. Basahel, Saudi Arabia Characterization of musculoskeletal disorders in the manufacturing industry in northwest of Mexico E. de la Vega, Z. Millan, G. Meza Partida and K. L. Duarte, Mexico Occupational therapy practitioners with occupational musculoskeletal injuries: Prevalence and risk factors M. Alnaser, Kuwait Study on the visual scheme of tunnel detection based on web Y. Cheng, W. Qiu and B. Leng, China	

93	Interface Design and Usability Evaluation for Healthcare and Safety Co-Chairs: V. Rice, USA, and H. Chunpir, Germany	EMUSP
8:00-10:00 - FORUM 19	Usability evaluation of electronic medical records with physicians using subjective and objective measures P. Mosaly, L. Mazur, L. Hoyle and L. Marks, USA Timeaxis design of health monitoring seat system using M method and SysML M. Arita, T. Kato, P. Hui, A. Matsumoto, K. Sato and Y. Matsuoka, Japan Usability evaluation of project NOAH (Nationwide Operational Assessment of Hazards) web portal E. Alegre, Jr., M. Ausa, E. Ventura and A. J. Portus, Philippines Towards a framework for evaluating usability of business process models with BPMN in health sector E. Rolon, J. Orozco, G. Chavira and J. Pablo Soto, Mexico Symptoms of post-traumatic stress disorder and somatization V. Rice, R. Tree and G. Boykin, USA Interface design for developing and deploying health self-management tool W. -C. Tsai, Taiwan	
94	Systems Thinking Applied to Injury Prevention for Outdoor Activities Chair: N. Goode, Australia	HFSOR
8:00-10:00 - FORUM 21	Looking beyond people, equipment and environment: Is a systems theory model of accident causation required to understand injuries and near misses during outdoor activities? N. Goode, P. Salmon, C. Finch and M. Lenne, Australia All about the teacher, the rain and the backpack: The lack of a systems approach to risk assessment in school outdoor education programs C. Dallat, N. Goode and P. Salmon, Australia Do you know how to identify, prevent, and treat concussion? Perspectives of participants across rugby union system A. Clacy, R. Sharman, N. Goode, G. Lovell and P. Salmon, Australia New data application in snow sports safety A. Kuehnelt-Leddihn and B. Huber, Austria Physical activity as a strategy for prevention and health promotion in the occupational context: An example of corporate engagement E. Cadavid and L. M. Saenz, Colombia Inter-rater reliability of a causal factor taxonomy that uses systems theory designed for the outdoor domain N. Taylor, N. Goode, P. Salmon, M. Lenne and C. Finch, Australia	
95	Human Systems Interaction Co-Chairs: J. M. Fonseca, Portugal, and R. Mahamuni, India	HFSysI
8:00-10:00 - FORUM 22	A real time biofeedback system using visual user interface for physical rehabilitation M. Barandas, H. Gamboa and J. M. Fonseca, Portugal Gaze estimation technique for directing assistive robotics C. Drawdy and P. Yanik, USA A simplified approach for making human values central to interaction design R. Mahamuni, K. Kalyani and P. Yadav, India A tool to support the integration of ergonomics and lean six sigma I. Nunes, Portugal Local Euler angle pattern recognition for smash and backhand in badminton based on arm position M. Ilhamdi Rusydi, M. Sasaki, M. Hadi Sucipto and Z. Noverika Windasari, Indonesia/Japan Contributions of workflow for knowledge generation process K. Hatakeyama, Q. Schmitz and M. Macedo, Brazil	
10:00 - 10:30 Refreshments will be provided in Forum 24		

96	Affective and Pleasurable Design III Chair: A. Nijholt, The Netherlands	APD
10:30-12:30 - FORUM 1	The ambience of ambient intelligence: An Asian approach to ambient systems? C. Kaiying, D. Plewe and C. Röcker, Singapore/Germany Proposal of design factors to improve the empathic dimension of a human-computer relationship D. Lockner and N. Bonnardel, France Designing humor for playable cities A. Nijholt, The Netherlands The design and technological innovation: How to understand the growth of startups companies in competitive business environments I. Moroni, A. Arruda, and K. Araújo, Brazil The interpretation of emotional content present in ceramic coating tiles that present tactile texture surfaces L. Nascimento, Brazil	
97	Panel: Human Factors Research in Air Transportation and Space Operations Chair: K. Latorella, USA	AVI
10:30-12:30 FORUM 2	Panel: Human Factors Research in Air Transportation and Space Operations A. Mishkin, USA A. Hobbs, USA J. Rochlis, USA	
98	Panel: Countering Radicalization and Violent Extremism Messaging: A Unity of Effort Dialog Chair: L. Costa, USA	CCDM
10:30-12:30 FORUM 3	Panel: Countering Radicalization and Violent Extremism Messaging: A Unity of Effort Dialog	
99	System Design Using Cognitive Neuroergonomics Chair: J. Danczyk, USA	C&N
10:30-12:30 - FORUM 6	Towards visualizations to support the construction of narratives for analysis P. Jacobs, S. Kane, C. Jones, M. Farry and J. Niehaus, USA Visualizing constraints and awareness of submarine maneuverability and detectability J. Danczyk, P. Jacobs, W. Thornton, S. Kane and M. Farry, USA Exploring affective reaction during user interaction with colors and shapes E. Dillon, T. Abegaz and J. Gilbert, USA Effect of environment immersivity on encoding strategies of spatial tasks M. Kozhevnikov, L. Cheng and M. Kozhevnikov, Singapore Experimental study of results obtained from the interaction with motion-based touchless software created for habilitation-rehabilitation in users with diagnosis of ASD (Autism Spectrum Disorders) L. Bartoli, Italy	

100	Macroergonomics and Mobility Design Co-Chairs: C. Surakitbanharn, USA, and J. Bergmann, UK	ED
10:30-12:30 - FORUM 4	Synesthetic metering for speed - evaluation applied to young drivers' speeding J. Cabral, R. Mendonca, and J. Cabral, Italy/Brazil Information on public transport: A comparison between information systems at bus stops A. Tavares, C. Gálvez, L. Wilson Albuquerque, A. Almeida, R. Barros, M. Soares and V. Villarroco, Brazil Unverstanding truck drivers' postural and visual behavior E. Ohlson and A. -L. Osvalder, Sweden Why is designing for developing countries more challenging? Modelling the product design domain for medical devices J. Bergmann, A. Noble and M. Thompson UK Guidelines for a rehabilitation model for banana packing plants from the integration of environmental variables and human factors: Study case in Urabá zone in Colombia J. Camilo Paniagua, J. Sanchez Jaramillo and A. Gonzalez Castaño, Colombia Sustainability and socio-technical approach to product design: A case study in a fishing isolated community F. Arns, R. Bitencourt, M. Okumura, G. Lia and O. Canciglieri, Brazil Macroergonomics and social responsibility: A case study on a company in the sector of solid waste management R. Bitencourt, P. Carvalho, C. Ferreira and L. Lo, Brazil	
101	Clothing Design Chair: G. Montagna, Portugal	ED
10:30-12:30 - FORUM 5	Ergonomic issues related to clothing and body changes of the new elderly women C. Vianna and M. Quaresma, Brazil Fashion and ergonomic design: Aspects that influence the perception of clothing usability E. Das Neves, A. Brigatto and L. Paschoarelli, Brazil Customized wardrobe: Clothing according to user C. Morais and G. Montagna, Portugal The fitting of plus size bra for middle aged women A. Filipe, G. Montagna, C. Carvalho and J. Freire, Portugal The contribution of regional costume in fashion M. Delgado and M. Albuquerque, Portugal Multi-dimensional consumers: Fashion and human factors G. Montagna, Portugal Discussing consumption and sustainability in clothing production: A case study of a company in Recife, Brazil C. Pessôa, K. Araújo and A. Arruda, Brazil	
102	Service Fascination Through Emotional Design, Technology, and Gamification Co-Chairs: C. Zagel and F. Bodendorf, Germany	HSSE
10:30-12:30 - FORUM 8	Turning data into experiences. Pro-active experiences and their significance for customers and business A. Walorska, Germany Death and UX? Digital afterlife and digital legacy A. Walorska, Germany Gamification of business processes: Re-designing work in production and service industry O. Korn and A. Schmidt, Germany The geek factor – assessing technology desirability C. Zagel, S. Huber and F. Bodendorf, Germany Extreme storytelling - a new framework for holistic experience design P. Kuhl, Germany	

103	Human Side of Services in Education Chair: D. Nielsen, England, and S. Dylak, Poland	HSSE
10:30-12:30 - FORUM 9	Post graduate student learning engagement as a higher education service provision D. Nielsen and R. Thanneeru, UK Revision of curricula in higher education service provision: For better learning engagement and collaborative learning D. Nielsen, P. Ieromonachou, Y. Lin and A. White, UK Co-creative aspects of data-driven discovery L. Anderson and C. Kieliszewski, USA The future school laboratory in Poznan – Lessons learned from the educational research S. Dylak and K. Kurowski, Poland Apply pictographic figure in word characteristic cultural and creative design W. H. Chen and B. -S. Lin, Taiwan	
104	Ergonomic Products and Systems I Chair: G. Bolmsjö, Sweden	MFG
10:30-12:30 - FORUM 10	Human error reduction for cost efficiency improvement in the butchery area of a chicken processing company Y. Kurata, D. J. Acula, R. Galingan, A. M. J. Palines and J. C. Viterbo, Philippines Orchestrating collaboration - Using visual collaboration suggestion for steering of research clusters A. Calero Valdez, D. Özdemir, M. Amin Yazdi, A. K. Schaar and M. Ziefle, Germany Young workers' occupational safety knowledge creation and habits I. Hejduk and P. Tomczyk, Poland Supporting tools for operator in robot collaborative mode G. Bolmsjö, Sweden Gesture recognition using a depth camera for human robot collaboration on assembly line E. Coupeté, F. Moutarde and S. Manitsaris, France Cure performance and effectiveness of portable and diminutive smart healthcare wear system based on electro-conductive textiles R. -H. Kim, South Korea	
105	Safety Evaluation Co-Chairs: I. Nunes and P. Arezes, Portugal	SMHF
10:30-12:30 - FORUM 7	Safety evaluation of pesticide-proof materials for agricultural clothing using in-vivo test R. -H. Kim, J. Lim and H. -Y. Lee, South Korea Childhood-home-injury-situation simulation adaptable to an individual environment based on child physical model and injury semantic structure database Y. Nishida, D. Nakazato, K. Kitamura, H. Mizoguchi and T. Yamanaka, Japan Study of thermal environments in the bakery industry: Evaluation of working conditions A. Leal and M. C. Neves, Portugal Optimization of the number of fixed gas detectors for offshore platforms due to ensure the safety and health of operators N. Morais Santos, Brazil Application logic plan do check action (PDCA) as a method for managing ergonomic risks A. Andrade, N. Gonçalves and R. Andrade, Brazil Contributions of ergonomics in work activities outside the Eletrobras office P. R. Bassil Pires, Brazil	

106	Work Assessment and Anthropometry Co-Chairs: B. Bradtmiller, M. Suh, E. Irwin and F. Draicchio, USA/Italy	PEHF
10:30-12:30 - FORUM 13	Predicting product accommodation: The role of the anthropometric fit test B. Bradtmiller, USA A tool for diagnosing problems in the lumbar spine R. Pereira, X. Valis, J. Veronesi, Jr. and R. da Silva, Brazil Use of field-based motion capture to augment observational data in ergonomic assessment of aircraft maintenance E. Irwin and K. Streilein, USA Evaluation of breast size through different methods M. Suh, USA Development of a graphical tool for measuring and three-dimensional representation of the physical and intangible forms of human body in four different postures that affect the perception of space S. Velasquez and J. Sanchez Jaramillo, Colombia Evaluation of musculoskeletal symptoms in seamstresses by REBA E. M. Pizyblski, A. A. Xavier, E. Oliveira and F. Torres, Brazil Kinematic and electromyographic assessment of upper limb repetitive movements in an artisanal pastry workshop A. Silvetti, A. Ranavolo, V. Gravino, F. Forzano, S. Iavicoli, G. Chini and F. Draicchio, Italy	
107	Rail Chair: A. Naweed, Australia	R&R
10:30-12:30 - FORUM 11	Use of numerical evacuation tools to demonstrate the respect of lawful requirements for the rolling stock G. Craveur, France Information systems for cooperation in operational train traffic control B. Sandblad, Sweden Beyond the crossing: using cognitive work analysis to identify design requirements for safer rail level crossing systems P. Salmon, M. Lenne, G. Read, N. Stevens, N. Stanton and G. Walker, Australia/UK Improving dispatching software in railway engineering I. Schütz, Germany Evaluation of human error probability of disc brake unit assembly and wheel set maintenance of railway bogie S. Singh and R. Kumar, India/Sweden Preliminary study for modeling train accident using Swiss-Cheese Model M. R. Suryoputro and A. D. Sari, Indonesia The impact of automated train control on skill, behaviour, and locus of control A. Naweed and C. Wullems, Australia	
108	Health and Risk Assessment Chair: S. Eaves, UK	S&O
10:30-12:30 - FORUM 16	Health risk assessment and incidence of shoulder pain among office workers S. Chaiklieng and M. Krusun, Thailand Facilitating healthy ageing in construction: Stakeholder views S. Eaves, D. Gyi and A. Gibb, UK Pattern recognition methods to assess taxi driver's fatigue driving accident risk M. Li, J. Yu, F. Meng, W. Zhang and L. Ma, China Perceived safety culture and occupational risk factors among women in metal industries: A study in Turkey G. Akalp, S. Aytac, N. Yamankaradeniz, O. Cankaya, A. Gokce and U. Tufekci, Turkey Ergonomic risk factors in an assembly industry H. Yousefi Rizi, Iran Method of analysis for accident related design B. Vasconcelos, A. Soeiro and B. Barkokébas, Jr., Brazil	

109	Ergonomic Evaluation I Chair: P. Arezes, Portugal	S&O
10:30-12:30 - FORUM 17	Ergonomic evaluation of office workplaces with rapid office strain assessment (ROSA) M. Matos and P. Arezes, Portugal The slip-resistance effect evaluation of floor roughness under different liquid viscosity C. -C. Chen, Z.-X. Chen, C.-L. Chang and F. -L. Lin, Taiwan Ergonomic assessment of drudgery of women worker involved in cashew nut processing factory in Meghalaya, India S. Borah, India Implementation of ergonomic changes Z. Wisniewski, A. Aleksandra Polak-Sopinska and P. Sopinski, Poland Status survey of occupational risk factors of manual material handling task at a construction site in India P. Ray, R. Parida and E. Saha, India	
110	Ergonomics Modeling for Automotive Industry Chair: T. Glohr, Germany	EMUSP
10:30-12:30 - FORUM 18	Gradual action-oriented ambient stimuli as means for joint driver-automation system design J. Kelsch and M. Dziennus, Germany The research on user-oriented adaptive operational interface for vehicle equipment Q. Xue, P. Lu, M.-X. Liu and L. Gong, China Haptics as an aspect of the perceived quality of control devices in trucks T. Glohr, N. Wahn, M. Fritz and T. Maier, Germany Show me how you drive and I'll tell you who you are – Recognizing gender using automotive driving parameters C. Stachl and M. Buehner, Germany Applicability of GOMS for the prediction of operation times while driving F. Kremser, A. Fehle and K. Bengler, Germany	
111	Human Factors, Business Management and Society: Design Co-Chairs: P. Haapalainen and M. Naaranoja, Finland	HFBMS
10:30-12:30 - FORUM 19	Customers' conscious experience in a coffee shop H. Vanharanta, S. Seikola and J. Kantola, Finland/Poland Applications of a UX maturity model to influencing HF best practices in technology centric companies – lessons from Edison S. Plewes and J. Fraser, Canada User-centered design of business communities. The influence of diversity factors on motives to use communities in professional settings A. K. Schaar, A. C. Valdez and M. Ziefle, Germany A study on the picking process time J. A. Lee, Y. S. Chang, H.-J. Shim and S. -J. Cho, Korea A technological resilience model based on the context of IT consumerization M. Blanck and A. C. G. Maçada	

112	Human Factors of Learning Sciences Co-Chairs: K. Orvis, USA, and C. Volioti, Greece	HFTELS
10:30-12:30 - FORUM 14	Memorizing abstract symbols: Effects of dynamic versus static visualizations J. Cristobal Castro-Alonso, P. Ayres and F. Paas, Australia Memory improvement by music composition and development of mobile application C. Ow, Y. Q. Chiang, J. Tan and S. L. See, Singapore An evaluation of the effect of various voice qualities on memory retention E. Arellano, P. R. Samozá, J. F. Sugay and B. Custodio, Philippines Music gestural skills development engaging teachers, learners and expert performers C. Volioti, S. Manitsaris, E. Hemery, V. Tsekouropoulou, E. Vilmaz, F. Moutarde and A. Manitsaris, France/Greece Designing optical sensorimotor feedback for GUIs supporting the learning of gestural know – how in pottery S. Manitsaris, G. Milona and A. Glushkova, France	
113	Flying Remotely Piloted Aircraft in U.S. Skies: Air Traffic Control Considerations Co-Chairs: C. Burns and J. Kamienski, USA	HFUS
10:30-12:30 - FORUM 21	Candidate solutions to key challenges of UAS integration into the national airspace system C. Rinkinen, M. Lauth, A. Mirot and K. Neville, USA ATC perspectives of UAS integration in controlled airspace J. Kamienski and J. Semanek, USA Enhancing the visibility of small unmanned aerial vehicles J. Stevenson, S. O'Young, and L. Rolland, Canada A socio-technical model for analyzing safety risk of unmanned aircraft systems (UAS): An application to precision agriculture J. Luxhoj, USA	
114	Human Factors of Robots and Exoskeletons I Co-Chairs: K. Gielo-Perczak, USA, and L. O'Sullivan, Ireland	RERA
10:30-12:30 - FORUM 22	Fast or accurate? – Performance measurements for physical human-robot collaborations J. Schmidtler and K. Bengler, Germany Effects on performance when using a Postural Assistive Device – results of a usability evaluation in laboratory setting K. Karlovic, S. Pfeffer, T. Maier, M. Heidingsfeld, M. Ederer and O. Sawodny, Germany End user needs elicitation for a full-body exoskeleton to assist the elderly L. O'Sullivan, V. Power, G. Virk, N. Masud, U. Haider, S. Christensen, S. Bai, L. Cuypers, M. Dhavé and K. Vonck, Ireland Safety and risk management in designing for the lifecycle of an exoskeleton: A novel process developed in the Robo-Mate project J. van der vorm, M. de Looze, R. Nugent and L. O'Sullivan, The Netherlands/Ireland Grip pressure and wrist joint angle measurement during activities of daily life J. Sanford, C. Young, S. Cremer, D. Popa, N. Bugnariu and R. Patterson, USA	

115	Emotion and Interface Chair: M. Okubo, Japan	APD
13:30-15:30 - FORUM 1	Design for game situation based on player's personality M. Okubo, S. Yamada and M. Sakata, Japan Haptic display using informative resisting torque for intuitive operation with lever K. Kaede and K. Watanuki, Japan A study on personal space in virtual space based on personality M. Okubo and R. Nishihara, Japan Measurement of brain activity using near-infrared spectroscopy during local hot-cold stimulus L. Hou and K. Watanuki, Japan Psychology and design. The influence of the environment's representation over emotion and cognition. An ET study on IKEA design B. Colombo, S. Laddaga and A. Antonietti, Italy	
116	Human-Machine Interactions and Tools Chair: U. Asgher, Pakistan	CCDM
13:30-15:30 - FORUM 7	Group profiling automation for crime and terrorism (GPACT) J. Lautenschlager, I. Warfield, B. Kettler and A. Ruvinsky, USA New mobile phone and webcam hand images databases for personal authentication and identification A. Hassanat, M. Al-Awadi, E. Btoush, A. Al-Btoush, E. Alhasanat and G. Altarawneh, Jordan Human factors in the context of excellence models: European Foundation for Quality Management (EFQM) excellence software model and cross-cultural analysis U. Asgher, M. Leba, A. Ionica, R. Iosif Moraru and R. Ahmad, Pakistan/France/Romania Analysis and modeling of academia's collaborative decision support system based on key performance indicators and degree of certainty U. Asgher and M. Romero, Pakistan/Canada	
117	C&N Theories and Methods Chair: K. Hale, USA	C&N
13:30-15:30 - FORUM 9	An application of the systemic-structural activity theory approach to the design of the inventory receiving task G. Bedny, I. Bedny and W. Karwowski, USA Application of systemic structural theory of activity in unearthing employee innovation in mine work M.-A. Sanda, Ghana Toward computational, embeddable, cognitive models of context W. Zachary, A. Rosoff, T. Thomas, V. Iordanov, S. Read and L. Miller, USA Modified pluralistic walkthrough for method evaluation in manufacturing P. Thorvald, J. Lindblom and S. Schmitz, Sweden Selecting video analytics using cognitive ergonomics: A case study for operational experimentation N. Berry, W. Prugh, C. Lunkins, J. Vega, R. Landry and L. Garciga, USA The investigation research of the mental health status and related influent factors for oil-workers N. Li and L. Wen, China	

118	Applied Digital Human Modeling II Chair: J. Park, USA	ADHM
13:30-15:30 - FORUM 6	Development of an optimization method for locating the pelvis in an automobile seat J. Park, S. Ebert, M. Reed and J. Hallman, South Korea/USA Data processing and analysis for the 2012 Canadian Forces 3D anthropometric survey C. Shu, P. Xi and A. Keefe, Canada Multi-scale predictive human model for preventing injuries in the ankle and knee S. Sultan and T. Marler, USA Social cueing in human attention within the context of orientation tasks L. Paletta, N. Neuhuber, M. Schwarz, V. Wagner and W. Kallus, Austria Computational modeling of attention in the context of mental and physical stress L. Paletta, V. Wagner, M. Schwarz, N. M. Pittino and W. Kallus, Austria Modelling gestural know-how in pottery based on state-space estimation and system dynamic simulation S. Manitsaris, A. Glushkova, E. Katsouli, A. Manitsaris and C. Volioti, France	
119	Sustainable Design II Chair: M. da Silva, Portugal	ED
13:30-15:30 - FORUM 3	The passenger car in Portugal: Features of functional modules P. Dinis and F. Silva, Portugal Recycled glass crystal: An approach to the emotional design F. Marques, Portugal User-sensing as part of a wayfinding design process M. Borges and F. Silva, Portugal Kinesiological analysis of the dressing process in musculoskeletal patients L. Schiehl, F. Silva and I. Simões, Portugal Sustainable museographies - the museum shops M. Albuquerque and M. Delgado, Portugal	
120	Product Design Co-Chairs: L. Prado-Leon, Mexico, J. Rechard and P. Berruet, France	ED
13:30-15:30 - FORUM 4	Experimental verification of ecological interface prototype issued by an automated generation tool J. Rechard, T. Morineau, F. Léger, A. Bignon, D. Kesraoui, J.-F. Bouillon and P. Berruet, France Human factors in musicians: Design proposals L. Prado-Leon, J. Rey-Galindo and P. Zambrano-Prado, Mexico The significance of manual wheelchairs: A comparative study on male and female users J. Lanutti, F. Medola, D. Gonçalves, L. Silva, A. Nicholl and L. Paschoarelli, Brazil Ergonomic analysis of visual information and stimulation of the material released used in the manufacture of toys J. C. Riccô Placido da Silva, V. Friso, L. Paschoarelli, P. Landim and J. C. Placido da Silva, Brazil Towards the design of a natural user interface for performing and learning musical gestures S. Manitsaris, E. Hemery, C. Volioti, F. Moutarde and A. Manitsaris, France	

121	User Research Chair: N. Stanton, UK	ED
13:30-15:30 - FORUM 5	Affective perception of disposable razors: A Kansei engineering approach B. Razza and L. Paschoarelli, Brazil Relationship between academic discipline and user perception of the future of electronic textbooks K. Sheen and Y. Luximon, Hong Kong Design issues to reach rural women in Pakistan J. Sheikh, Z. Mahmood and A. Abbas, Pakistan Breast size and influence of effective brassiere M. Suh, USA Improving design methods by the incorporation of consumer behavior principles F. Campos, M. Neves, W. Correia and S. Cavalcante, Brazil Intelligibility assessment in a square shaped preschool classroom according to the grouping of children of 3 to 5 years of age L. Marin Restrepo, C. Morales Maya, G. Guerrero Teran, A. Garcia and J. Waldron, Colombia	
122	Human Interface Design Chair: C. Alpay, Turkey	HC
13:30-15:30 - FORUM 10	Implementation of VA patient-centered prescription label and patient medication information K. Trettin, USA Assessment of the legibility of the handwriting in medical prescriptions of doctors from public and private hospitals in Quezon City A. A. Cerio, N. A. L. Mallare and R. M. Tolentino, Philippines National activation office (NAO) activation of electronic checklist system C. Triscari, USA Development of an ergonomics checklist for the evaluation of medical tablet personal computers C. Alpay, Turkey, and A. Hedge, USA Are we designing for experts or just really good beginners? D. Hooper, USA The design made me do it: Legal and ethical perspectives on deviantly innovative behavior J. Stewart, USA Perceived usability and acceptance of ongoing technology-facilitated depression monitoring M. Ramirez, S. Wu and H. Jin, USA	
123	Healthcare Devices II Co-Chairs: F. Mohammadzadeh and S. Liu, USA	HC
13:30-15:30 - FORUM 11	Post-deployment usability evaluation of a radiology workstation W. Jorritsma, F. Cnossen, R. Dierckx, M. Oudkerk and P. Van Ooijen, The Netherlands Ultrasound system typologies, user interfaces and probes design: A review G. Andreoni, M. Mazzola, S. Matteoli, S. D'Onofrio and L. Forzoni, Italy Ergonomics and workflow evaluation of automatic doppler angle technology implemented in a diagnostic ultrasound system F. Vannetti, T. Atzori, S. Matteoli, F. Andreuccetti, M. Fabiano, P. Menini, S. D'Onofrio and L. Forzoni, Italy Feasibility of a wearable, sensor-based motion tracking system F. Mohammadzadeh, S. Liu, K. Bond and C. Nam, USA Ergonomic evaluation of a modular shoe insert system by studying plantar pressure L. Ramírez, C. Camargo, J. Olguin Tiznado and J. Lopez, Mexico	

124	Ergonomics and Safety Co-Chairs: P. Arezes, Portugal, and P. McCauley, USA	HFSysl
13:30-15:30 - FORUM 13	Examining integrated human-system safety in NextGen through an application of the Human-Organization Safety Technique (HOST) M. Sawyer and K. Berry, USA Combined metrics for the evaluation of air traffic controller assistance systems M. Friedrich, T. Mühlhausen, O. Ohnheiser, H. Her and H. Gürlük, Germany Affordances and safe design of assistance wearable virtual environment of gesture D. Fass, France Development of an evaluation method to determinate optimized automation rate in nuclear power plants S. M. Lee, J. H. Kim, and P. H. Seong, Korea Ergonomics of treating ebola patients for healthcare workers globally P. McCauley, USA	
125	Enhancing Service Systems in Developing Countries through the Improvement of the Human Resource Chair: A. C. Matias, Philippines	HSSE
13:30-15:30 - FORUM 14	Developing the manpower complement for business analytics service professionals: A case study on the challenges faced by the Philippines E. R. Jalao, Philippines Investigating the effect on the learning curve of performing similar work during the break between work stints I. A. Martinez and J. A. Revilla, Philippines Identifying characteristics of jobs of front-line personnel that affect abnormal idle time: A case study on a popular amusement center in the Philippines A. J. Portus and I. A. Martinez, Philippines How good is this destination website?: A user-centered evaluation of provincial tourism websites C. R. Novabos, A. Matias and M. Mena, Philippines Effects of mental workload on academic performance among working students in an undergraduate engineering program Y. Kurata, R. M. L. Bano and A. Matias, Philippines Assessment of possible factors affecting severity of muscle fatigue among convenience store employees E. Rustico, Jr. and A. Matias, Philippines	
126	Ergonomics in Society Chair: S. Yazigi, Brazil	PEHF
13:30-15:30 - FORUM 16	Ergonomics management model focusing on resilience P. Fernandes, A. Berretta Hurtado and E. Concepcion Batiz, Brazil Activities triggered by waste generated in steel production: A study from the ergonomics standpoint S. Yazigi, R. Yazigi and F. Porfiro, Brazil Study on sleep disorders in concierges who work night shifts R. Dominguez, Chile Development of method to measure individual hazard perception independent from specific knowledge and experience A. Murata, Y. Okada and K. Tanaka, Japan Requirements for improving the usability of gym equipment located in public areas: The case of users blind or low vision in Brazil S. Oliveira and M. Ribeiro Okimoto, Brazil	

127	Analysis Methods II Co-Chairs: A. Roberts, UK, G. Read and P. Salmon, Australia	R&R
13:30-15:30 - FORUM 15	A hierarchical task analysis of commercial distribution vehicle driving in the UK M. Bedinger, G. Walker, M. Piecyk and P. Greening, UK Confidence and reliability in driving simulator based expert reviews of ADAS controllability P. Galaske, V. Weinbeer, M. Farid and K. Bengler, Germany Human factors evaluation of a novel Australian approach for activating railway level crossings G. Larue and C. Wullems, Australia Design of interactive driving simulator experiments for real-time route guidance that capture human factors considerations S. Peeta, D. Song, S. He, S. Agrawal, Y. Guo and Y. Kim, USA Effects of "smart-phoning" on pedestrians' attention and walking S. Haga, Y. Sekine, H. Saito and S. Yamaguchi, Japan Towards understanding the influence of environmental distractors on pedestrian behavior H. Tapiro, T. Oron-Gilad and Y. Parmet, Israel Emitting LED block at crosswalk entrance for visually impaired persons S. Fujisawa, N. Ikeda, K. Takahashi, T. Inagaki, K. Sato, S.-I. Ito and M. Seiyama, Japan	
128	Systems Approaches and Participatory Design Chair: R. Lamas, UK	R&R
13:30-15:30 - FORUM 18	Out of control? A systems analysis of the control relationships within road transport systems P. Salmon and G. Read, Australia The application of a systems-based design toolkit to improve situation awareness and safety at road intersections G. Read, P. Salmon and M. Lenne, Australia Please let me in: A participatory workshop approach to the design of a driver-to-driver communication device R. Lamas, G. Burnett, S. Cobb and C. Harvey, UK Human requirements validation for complex systems design A. Gregoriades, J. Hadjicosti, C. Florides and M. Pamapaka, Cyprus/UK	
129	Social and Occupational Ergonomics II Co-Chairs: Y. Nishida, Japan, and J. Cornu, Belgium	S&O
13:30-15:30 - FORUM 19	Ergonomics risk for neck shoulder back pain among dental professional S. Chaikleng and P. Suggaravetsiri, Thailand Development of a nursing care support system that seamlessly monitors both bedside and indoor locations T. Nishimura, K. Kitamura, Y. Nishida and H. Mizoguchi, Japan Evaluation of fatigue at work in teachers using modern resources in the classroom I. Maia and A. Leme, Brazil A proposed Kano-inspired framework applied to job satisfaction for matured Singaporeans S. Low, B. Peacock, K. C. Tan, S. K. Loh and C. Y. Ping, Singapore Effects of multiple working positions on user comfort: A study on multi-position ergonomic computer workstation S. Workineh and H. Yamaura, Japan An online system for visualizing routine structure from wireless usage access K. Sookhanaphibarn and E. Kanyanucharat, Thailand Work and workout – how to introduce healthy workload at workplaces M. Dangelmaier and W. Bauer, Germany	

130	Usability and Assistive Technology II Chair: C. Falcao, Brazil	EMUSP
13:30-15:30 - FORUM 17	The influence of load imposed by the backpack school in children and teens in Brazil J. C. Placido da Silva, A. Jussara De Paula and J. C. Ricc� Placido da Silva, Brazil That's easy! The effects of objective and subjective task difficulty when multitasking R. Adler, D. Rubin, A. Rahman Mohammad, A. Irfan, H. Senadeera and T. Nguyen, USA A case study of product usability evaluation of a pelvic device used by children with neuromotor impairments A. R. Abreu, P. Arezes, C. Silva and R. Santos, Portugal Analysis of the relationship between usability heuristics and interface patterns in banking service system J. C. Carlos Silva and P. Aquino, Junior, Brazil Usability analysis of laboratory website design to improve learning process A. Dila Sari, M. Ragil Suryoputro, Y. Rochman, S. Ulandari and E. Puspawardhani, Indonesia ProjectionChat: Remote emotional communication system using out-of-the-screen extension S. Sakai and J. Tanaka, Japan Ergonomics, laws and the organization: A discussion on the accessibility of the deaf people to public spaces M. Lopez and L. G. Lupi Vergara, Brazil	
131	Human Factors, Business Management and Society: Context Co-Chairs: A. Sivula and M. Naaranoja, Finland	HFBMS
13:30-15:30 - FORUM 21	Human factor in time management T. Reunanen, Finland Assessment of student retention using Evolute approach, an overview J. Einolander and H. Vanharanta, Finland New tools to help in a recruitment process A. Visa, J. Einolander and H. Vanharanta, Finland Ontology focused crowdsourcing management A. Sivula and J. Kantola, Finland Multi-ontology sense making – decision making of project core team M. Naaranoja, Finland	
132	Model-Driven Systems Engineering Applications Co-Chairs: L. Bolton, UK, and A. Apte, USA	HFSSE
13:30-15:30 - FORUM 22	Using model based engineering to own the technical baseline G. Wampole, D. Campbell and T. Wheeler, USA Enhancing user experience through customisation of UI design S. Low and S. L. See, Singapore Developing systemic cost engineering capability: A socio-technical case study within UK aerospace L. Bolton, J. Cheung, C. Clegg and M. Robinson, UK Meeting of minds and merging of mind-sets A. Apte, USA Model based engineering and the internet of things G. Arthurs and B. Brown, USA	
15:30-16:00 Refreshments will be provided in Forum 24		

133	Performance in Air Traffic Control and On Flight Decks Chair: K. Plant, UK	AVI
16:00-18:00 - FORUM 1	Simulation-based fatigue management training in air traffic control C. Knecht and C. Muehlethaler, Switzerland Icons showing uncertainty in aircraft cockpits: Minimizing overconfidence bias A. Kolbeinsson, G. Falkman and J. Lindblom, Sweden Analysis of human factor causes in serious aviation incident and accident reports in Switzerland C. Muehlethaler, C. Knecht, F. Buehler and M. Thuerler, Switzerland Using vision system technologies for offset approaches in low visibility operations L. Kramer, K. Ellis and R. Bailey, USA Identifying the importance of perceptual cycle concepts during critical decision making in the cockpit K. Plant and N. Stanton, UK	
134	Social Networks and Graph Theory Chair: W. Salter, USA	CCDM
16:00-18:00 - FORUM 2	Extending generative models of large scale networks C. Lofdahl, E. Stickgold, B. Skarin and I. Stewart, USA Analysis of opinion evolution in a multi-cultural student social network O. Lizardo, M. Penta, M. Chandler, C. Doyle, P. Singh, G. Korniss and B. Szymanski, USA Enhancing the utility of community detection research W. Salter, USA Behavior influence assessment of impacts of the Grand Ethiopian Renaissance Dam on unrest and popular support within Egypt R. Jeffers, M. Bernard, H. Passell and E. Silver, USA Effects of some military operations of influence on a population structured within sociocultural networks C. Faucher and J. -Y. Bergier, France	
135	Special Focus Session: Social Science Training and Modeling Applications Co-Chairs: S. Schatz and J. Cohn, USA	CCDM
16:00-18:00 FORUM 3	Sociocultural training systems L. Johnson and A. Gruendel, USA Leveraging big data and social science theory for sociocultural modeling A. Ruvinsky, I. Lustick, B. Levey and T. Siedlecki, USA	
136	Sustainable Design III Chair: M. da Silva, Portugal	ED
16:00-18:00 - FORUM 4	Sustainable communication design principles - 2.0 version M. Cadarso, Portugal Contributions of ergonomics to an affective sustainability in children's furniture C. Salvador, Portugal Inspædia user experience design (UXD) P. Maldonado, F. Silva, F. Teixeira, L. Ferrão, P. Ermida and M. Passos, Portugal Heuristics in design: A literature review R. Q. Pierre, Brazil Research focused on the user: Proposal for a new sustainable food service system C. Dagbagli, A. Arruda and K. Araújo, Brazil	

137	Design for Special People Chair: G. Balbinotti, Brazil	ED
16:00-18:00 - FORUM 5	Walker rehabilitation for children with disabilities: The method user-centered R. Livramento da Silva, L. Pereira, E. Neves, R. Islard Rocha de Moura, M. de Oliveira Freitas and K. Pereira, Brazil Tactile reality: The perception of space in the cultural heritage for people with visual impairments L. Martin and P. Andrade, Brazil Analysis of wayfinding strategies of blind people using tactile maps L. Martins, F. Almeida and F. J. de Lima, Brazil Browsing without clicking: Two proposals of web interface design for improving universal accessibility C. -J. Chou, W.-N. Huang and M. -H. Tsai, Taiwan Development of posture correction girdle for adolescents with early scoliosis J. Yip, Hong Kong	
138	Management Information System Use Chair: L. Forzoni, Italy	HC
16:00-18:00 - FORUM 6	Fathers of premature infants in online communities H. N. Kim, T. Wyatt, X. Li and M. Gaylord, USA Self-monitoring adherence and readiness theory for consumer health information technologies (smart-chit) C. Or and J. Guo, Hong Kong The development of a longitudinal study of acceptance of consumer health information technology among patients with comorbid type 2 diabetes and hypertension C. Or and M. Yan, Hong Kong Usability characteristics assessment protocol applied to eTouch ultrasound user-defined workflow optimization tool F. Vannetti, T. Atzori, S. Matteoli, K. Hartmann, G. Altobelli, R. Molino-Lova and L. Forzoni, Italy/Germany Thematic analysis of usability issues primary care physicians experience when using computerized physician order entry (CPOE) M. Clarke, J. Belden and M. S. Kim, Canada/USA Introducing routine measurement of healthcare worker's well-being as a leading indicator for proactive safety management B. Ray-Sannerud, S. Leyshon and V. Vallevik, Norway	
139	Smart Service Systems: Augmenting and Scaling Human Expertise with Cognitive Assistants Co-Chairs: J. Spohrer, USA, and F. Bodendorf, Germany	HSSE
16:00-18:00 - FORUM 7	Improving the financial health of a population via cognitive assistants H. Hastings, J. Saperstein and W. Charles, USA Moving towards the incomplete: A research agenda for the development of future products in the digital economy P. Davies and I. Ng, UK The need for a tool to support users of e-Science infrastructures in a virtual laboratory environment H. Chunpir, T. Ludwig and T. Rathmann, Germany e-Service dominant logic W. Cellary, Poland An experience-based decision support system for supporting governance in enterprise G. D'Aniello, M. Gaeta, C. Bassano, F. Orciul, S. Tomasiello and K. Sandkuhl, Italy Usability testing of cash-in machines for Filipino use J. M. Canapi, M. Chan, M. A. Contreras and A. J. Portus, Philippines Outfit browser – an image-data-driven user interface for self-service systems in fashion stores A. Piazza, C. Zagel, S. Huber and F. Bodendorf, Germany	

140	Ergonomic Products and Systems II Co-Chairs: M. Groten, Germany, and R.-H. Kim, South Korea	MFG
16:00-18:00 - FORUM 8	Caregiver and patient's comfort investigation based on head motion behavior analysis during transfer care M. Liao, T. Yoshikawa, A. Goto and H. Hamada, Japan Investigation of decision process for purchasing foodstuffs in the "Bento" lunch box H. Nishimoto, Y. Takai, A. Goto and A. Hamada, Japan Investigation of "Bento" culture in focusing on the pictorial expression decorated by colorful foods B. Thomas, M. Sarata, A. Hamada, Y. Takai, A. Goto and H. Nishimoto, Japan Development and emotional evaluation of scented clothing using microcapsules R. -H. Kim and C. -S. Noh, South Korea Design and simulation of a logistics distribution network applying the viable system model (VSM) M. Groten and V. Stich, Germany	
141	Ergonomics Evaluations Chair: L. Yuan, USA	PEHF
16:00-18:00 - FORUM 9	Task analysis and ergonomic evaluation in camshaft production operations J. Nieves Serratos-Perez, J. Hernandez-Arellano and C. Negrete-Garcia, Mexico Preliminary study on the evaluation of musculoskeletal risks through infrared thermography drummers B. del Carmen Flores Olivares, A.Yoguez Seoane, O. Susarrey Huerta and C. del Carmen Gutiérrez Torres, Mexico Ergonomic evaluation of scaffold building L. Yuan and M. Buvens, USA Human factors in the design of Interactive Multimedia Art Installations (IMAI) G. Al-Ofisan and A. Al-Wabil, Saudi Arabia Design of experiment based physiological modeling and analysis of combined MMH tasks J. Maiti and R. Rajesh, India A cross-sectional study on work-related musculoskeletal disorders and associated risk factors among hospital health care S. Mirmohammadi, S. Etemadinejad, J. Yazdani and H. Asgarinejad, Iran	
142	Aspects of Driver - Vehicle Interface in Automated Cars II Chair: N. Stanton, UK	R&R
16:00-18:00 - FORUM 11	Automated driving – assessment of interaction concepts under real driving conditions M. Albert, A. Lange, A. Schmidt, M. Wimmer and K. Bengler, Germany Take-over-requests for automated driving V. Melcher, S. Rauh, H. Widloither and W. Bauer, Germany Driving in an increasingly automated world – approaches to improve the driver-automation interaction S. Stockert, N. Richardson and M. Lienkamp, Germany Comparison of steering interventions in time-critical scenarios N. Schneider, C. Purucker and A. Neukum, Germany Drivers' monitoring behaviour and interaction with non-driving related tasks during driving with different automation levels K. Wiedemann, N. Schoemig, C. Mai, F. Naujoks and A. Neukum, Germany The interaction between highly automated driving and the development of drowsiness N. Schoemig, V. Hargutt, A. Neukum, I. Petermann-Stock and I. Othersen, Germany	

143	Applied Digital Human Modeling III Co-Chairs: J. Hotchkiss, P. Crooke and T. Marler, USA	ADHM
16:00-18:00 - FORUM 10	Towards implementing a real-time deformable human muscle model in digital human environments A. Sharma, A. Mathai, T. Marler and K. Abdel-Malek, USA An ensemble learning based model for real estate project classification W. Paireekreng and W. Choensawat, Thailand The language of caring: Digital human modeling, practice patterns, and performance assessment J. Hotchkiss, C. Brackney, J. Paladino, M. Kaynar and P. Crooke, USA American football helmet for preventing concussion: A literature review S. Ahmadisoleymani and J. Yang, USA An architecture to classify desertification areas using hyperspectral images and the optimum path forest algorithm M. Macedo, V. Times, G. Cavalcanti and E. Rabbani, Brazil	
144	Ergonomic Evaluation II Chair: R. Pope-Ford, USA	S&O
16:00-18:00 - FORUM 14	Analyzing the function of facilitation using a state model of communication and a cognitive model of facilitator I. Takenaka and T. Kanno, Japan Physiological workload of hill farm women of Meghalaya, India involved in firewood collection S. Borah, India Improving and modifying design of workstations within a manufacturing environment M. Khan and R. Pope-Ford, USA A proposed methodology for task analysis in ergonomic evaluations K. Gomez-Bull, J. Hernandez-Arellano and G. Ibarra-Mejia, Mexico Thermal comfort in industrial environment: Conditions and parameters N. Pinto, A. Xavier and K. Hatakeyama, Brazil Ergonomic risk mapping at the refrigerator company I. Acar and G. Deniz, Turkey Lessons learned while implementing ergonomics in Honduran manufacturing sites M. Perazza, USA	
145	Smart Architecture in Sustainable Infrastructure II Co-Chairs: J. Charytonowicz, W. Bonenberg and A. Jaglarz, Poland	HFSI
16:00-18:00 - FORUM 15	Reuse of building materials J. Charytonowicz and M. Skowronski, Poland Sustainable development in the concepts of modern bathrooms A. Jaglarz, Poland Universal design in kitchen solutions A. Bonenberg, Poland Public space in the residential areas: The method of social-spatial analysis W. Bonenberg, Poland Green BIM in sustainable infrastructure X. Wei, China Formation of sustainable infrastructure using microbial methods and humanization of man-made environment R. Tarczewski, Poland	

146	Ergonomics Modeling and Usability Evaluation II Chair: C. Falcao, Brazil	EMUSP
16:00-18:00 - FORUM 16	Generalizing statistical body shape models to alternative avatars B. -K. Park, M. Reed and H. Kim, USA Effectiveness of paired-comparison and card-sorting methods in usability preference research M. Johal and M. Robinson, UK Evaluation of natural user interface: A usability study for leap motion device C. Falcao, A. C. Lemos and M. Soares, Brazil Tangible programming environment using paper cards as command objects K. Tada and J. Tanaka, Japan System for automatically sharing photos taken by public or third party cameras I. Kanno and J. Tanaka, Japan	
147	Critical Systems Chair: M. Simoes-Marques, Portugal	HFSysI
16:00-18:00 - FORUM 17	Modeling and simulation in product life cycle M. Simões-Marques, Portugal Enhancing the effectiveness and efficiency of control room operators – A roadmap-based approach for selecting interaction technologies for defence and safety-critical organisations and industries M. Boecker, Germany Optimizing warfighter performance at the user interface throughout the system development lifecycle P. Savage-Knepshield, USA Understanding discovery in enterprise big data science: An agent-based approach O. Anya, B. Moore, C. Kieliszewski, P. Maglio and L. Anderson, USA Soldier model decomposition for a distributed representation M. Diego, C. Burford and J. McDonnell, USA	
148	Human Factors of Robots and Exoskeletons II Co-Chairs: K. Gielo-Perczak, USA, and A. Tran, Australia	RERA
16:00-18:00 - FORUM 18	Standards for the safety of exoskeletons used by industrial workers performing manual handling activities: A contribution from the Robo-Mate project to their future L. O'Sullivan, R. Nugent and J. van der vorm, Ireland/The Netherlands Head stabilization during minimal invasive surgery tasks: An uncontrolled manifold analysis K. Gianikellis, F. Sánchez-Margallo, A. Skiadopoulos, J. Sánchez-Margallo and C. Espino Palma, Spain Definition of elderly trust in a human-robot team D. Ishak and D. Nathan-Roberts, USA Analysis of human grip strength in physical human robot interaction A. Tran, D. Liu, R. Ranasinghe, M. Carmichael and C. B. Liu, Australia Light weight gloves with self-sensing smart actuators for work stress reduction U. Müller, P. Gust, T. Spitz, N. Feller and S. Kamp, Germany	

149	Training, Education, and Systems Analysis to Mitigate Cyber Attacks Co-Chairs: J. Lockett-Reynolds and K. Muse, USA	CYBER
16:00-18:00 - FORUM 19	How management go wrong? The human factor lessons learned from a cyber-incident handling exercise T. Aoyama, I. Koshijima, K. Seki and C. Aoyama, Japan Training for the unknown: The role of feedback and similarity in detecting zero-day attacks N. Ben-Asher and C. Gonzalez, USA The human factor in the social media security - Combining education and technology to reduce social engineering risks and damages D. Tayouri, Israel Mindlessness attacks F. Zhu, S. Carpenter and S. Kolimi, USA Cyber security and user responsibility: Surprising normative differences B. Strawser and D. Joy, USA Trust as a human factor in holistic cyber security risk assessment D. Henshel and M. Cains, USA Taking the bait: A systems analysis of phishing attacks D. Lacey, P. Salmon and P. Glancy, USA/Australia	
150	Modeling and Simulation Co-Chairs: J. Thomas and P. Benjamin, USA	HFUS
16:00-18:00 - FORUM 21	A context-based approach to robot-human interaction W. Zachary, M. Johnson, R. Hoffman, T. Thomas, A. Rosoff and T. Santarelli, USA Using a 3D world to address perceptual issues in human-robot coordination D. Benjamin and D. Lyons, USA Beyond line of sight control of small unmanned air vehicles using a synthetic environment to augment first-person video J. Stevenson, S. O'Young and L. Rolland, Canada UAV gesture interaction design for volumetric surveillance X. Cheng, Q. Ge, S. Xie, G. Tang and H. Li, China Lifelong learning for autonomous systems T. Kelley, USA	
151	Concept of Operations and Function Allocation Co-Chairs: C. Lowe, M. Lowe and H. Omole, UK	HFOGN
16:00-18:00 - FORUM 22	Using system architecture considerations to analyze allocation of functions C. Lowe and M. Lowe, UK Offshore transport accident analysis using HFACs H. Omole and G. Walker, UK Aspects of the nuclear power plant control room system contributing to safe operation E. Simonsen and A. -L. Osvalder, Sweden Field study confirms the belief that keeping busy helps control room operators sustain alertness during the night shift R. Jensen, USA Function allocation for humans and automation in the context of team dynamics J. Joe, J. O'Hara, J. Hugo and J. Oxstrand, USA	

152	Affective and Pleasurable Design IV Chair: W.-Y. Chou, UK	APD
8:00-10:00 - FORUM 1	A method for developing images of clothes based on visual and tactile evaluations of “thickness” and “thinness” T. Ishikawa, S. Taira, K. Sasaki, K. Miyatake and M. Ayama, Japan Study of the empty-nesters' preference of drug packaging D. Men and Q. Liu, China Exploring the feasibility of using affective pictures to elicit positive emotion with nursing home residents with dementia W. -Y. Chou, C. Waszynski, J. Kessler and P. J. Clarkson, UK Considerations on archiving traditional skills focusing on pauses and fundamental movements H. Nomiya and T. Hochin, Japan Identity matters: The influence of Brazilian handcraft on its contemporary furniture design Y. Fernandes, K. Araújo and A. Arruda, Brazil I don't know what I want to hear, but I do know what I don't want to hear - ERAN And MMN as a fitness function for an adaptive music generator human-computer interface F. Barretto, G. Rego and S. Venturelli, Brazil	
153	Effects of Training and Fatigue on Performance Co-Chairs: L. Thomas and R. Arnold, USA	AVI
8:00-10:00 - FORUM 2	Fatigue detection in commercial flight operations: Results using physiological measures L. Thomas, C. Gast, R. Grube and K. Craig, USA Role of pilot lack of manual control proficiency in air transport aircraft accidents R. Arnold, USA Air traffic control students tendencies of desirability levels during flight norms violations S. Borsuk and O. Reva, Ukraine From spatial reasoning to direct event perception in air traffic control A. Baier and A. Zimmer, Germany	
154	Cognitive Biases, Change of Risk Attitude, and Ethical Behavior in Decision Making Chair: A. Murata, Japan	CCDM
8:00-10:00 - FORUM 3	Insensitivity to unethical behavior in decision making when indirectly intermediated A. Murata, Y. Matsushita and M. Moriwaka, Japan Condition on occurrence of unethical behavior due to loss aversion in decision making A. Murata and S. Nakamura, Japan Statistics of a variety of cognitive biases in decision making in crucial accident analyses A. Murata and H. Yoshimura, Japan Unnoticed unethical behavior in decision making when gradually escalated A. Murata and T. Morinaga, Japan Outcome bias in decision making on punishment or reward A. Murata, T. Nakamura, Y. Matsushita and M. Moriwaka, Japan Irrational properties of risk attitude in decision making A. Murata, M. Moriwaka and Y. Ohta, Japan ICS Honeytrap System (camouflagenet) based on attacker's human factors H. Naruoka, M. Matsuta, W. Machii, T. Aoyama, M. Koike, I. Koshijima and Y. Hashimoto, Japan	

155	Health, Society and Culture Co-Chairs: U. Asgher, Pakistan and A. K. Khan, USA	CCDM
8:00-10:00 - FORUM 6	The impact of Chinese cultural elements on the user experience in the Chinese government website design T. Lei, X. Liu and T. Chen, China Type II diabetes: A multi-national comparison of prevention programs A. K. Khan, USA An introduction to cleft lip and palate A. Khan, USA Modeling intergroup emotions for culturally-aware systems M. Machtoune, France	
156	Measures of Attention and Workload Chair: P. Mijović, Serbia	C&N
8:00-10:00 - FORUM 7	Do micro-breaks increase the attention level of an assembly worker? An ERP study P. Mijović, V. Ković, I. Mačužić, B. Jeremić, P. Todorović, M. Milovanović and I. Gligorijević, Serbia Availability of body motion and facial information for evaluating visual and auditory attention T. Nagasawa and H. Hagiwara, Japan Relating workload to performance during physician-computer interactions L. Mazur, P. Mosaly, E. Comitz and L. Marks, USA Test of a new drowsiness monitoring system based on ocular parameters C. François, J. Wertz, T. Langohr, T. Hoyoux and J. Verly, Belgium Pupil diameter as a measure of cognitive load during auditory-visual interference in a piloting task V. Peysakhovich, F. Dehais and M. Causse, France High rate of inattentive deafness in simulated air traffic control tasks L. Giraudet, J.-P. Imbert, S. Tremblay and M. Causse, France Effects of maternal prenatal chronic mild stress on the learning and memory and the hippocampal IGF-2 and NF-κB expression in adult offspring S. Guan, China	
157	Methodology Issues in Design I Co-Chairs: L. Querelle, France, and A. Renzi, Brazil	ED
8:00-10:00 - FORUM 9	HFE in design improvement - precision agriculture sensor device S. L. Choong, A. Firdaus Ismail, S. Saidin, W. H. W. Kamal and M. Rohaizam Mohd Tahar, Malaysia Using cognitive workload analysis to predict and mitigate workload for training simulation R. Jones, R. Wray, J. Zientz, B. Bachelor and C. Newton, USA Improving activity analysis and flow tools: Indoor tracking L. Querelle, France The Delphi method for future scenarios construction A. Renzi and S. Freitas, Brazil Proposition of a supporting method for the generation of ergonomic specifications D. Nunez Diban and L. Gontijo, Brazil Ergonomic hazards in confined spaces G. Araujo and M. Soares, Brazil Household drill innovative design under the guidance of ergonomics Y. Zhao, H. Du and H. Hu, China	

158	Healthcare Setting Design Co-Chairs: V. Duffy and N. Lightner, USA	HC/ADHM
8:00-10:00 - FORUM 4	Visual cues to improve healthcare worker compliance with isolation precautions L. Clack and H. Sax, Switzerland Mobile indoor navigation assistance for mobility impaired people Y. Vasilev, A. Blattner and B. Harriehausen-Mühlbauer, Germany The tradition of anaesthetic rooms: Best practice or patient risk? J. Velzen, S. Atkinson, E. Rowley and J. Martin, UK Ergonomic risks in operating rooms: An unexplored area in Mexico J. N. Serratos-Perez, C. Hidalgo-Valadez and C. Negrete-Garcia, Mexico Human factor and operating considerations for door lockset design for patient bathrooms in a tertiary acute hospital W. K. Kam and Y. T. Chan, Singapore Testing a tool to support safety in healthcare facility design E. Taylor, A. Joseph and X. Quan, USA Cost optimization for patient referrals K. Farahmand, M. Mostafa, S. S. Wadhwa, S. Upadhyaya and V. H. Khiabani, USA	
159	Servicescape Designs In Healthcare Organizations: How Physical Space Impacts Patient Care Systems Co-Chairs: L. Mazur and L. Marks, USA	HSSE/HC
8:00-10:00 - FORUM 5	Safe and efficient hospitals: A case study of lean-evidence based design (EBD) approach during program and schematic phases of design L. Mazur, K. Johnson and J. Chadwick, USA Promoting high reliability and value creation in healthcare: A case study from radiation oncology clinic L. Marks and L. Mazur, USA Affective health design: Hospital service systems improvement case study D. Nathan-Roberts and S. Yin, USA Creating a veteran-centered servicescape in a hospital based cancer care clinic A. Carlstrom, USA Human-centered design and the co-creation of a new hospital atrium servicescape C. Hughes, USA	
160	Maneuvers and Challenges in the Maritime Domain and Ecosystem Chair: M. Di Nicolantonio, Italy, and A. Roberts, UK	MAR
8:00-10:00 - FORUM 10	Gesture recognition in a marine simulator for crane hand signals S. Komandur and G. Strazdins, Norway From desk to field - human factor issues in remote monitoring and controlling of autonomous unmanned vessels Y. Man, M. Lundh, T. Porathe and S. Scott MacKinnon, Sweden The command team experimental test-bed stage 1: The planning, design and building of a submarine control room simulator A. Roberts, N. Stanton and D. Fay, UK Smart glasses to support maritime pilots in harbor maneuvers M. -C. Ostendorp, A. Lüdtkke and J. C. Lenk, Germany Analysis of marine ecosystems: Usability, visualization and community collaboration challenges H. Chunpir and A. Mall, Germany A framework for assessing and communicating human systems integration efficacy across the system lifecycle M. O'Neil, L. Shattuck and L. Sciarini, USA Econometric modelling and forecasting for Norway's revenue from export of Ships: An application to two-way factorial with interaction model Y. Tesfay and P. Solibekke, Norway	

161	Knowledge Based Enterprise Chair: S. Trzcielinski, Poland	MFG
8:00-10:00 - FORUM 15	The influence of knowledge based economy on agility of enterprises S. Trzcielinski, Poland Organizational structure and agile enterprise. Anticipated effects and empirical results from Polish enterprises E. Pawlowski and K. Pawlowski, Poland Modern manufacturing practices and agile enterprise. Anticipated scope of implementation and empirical results from Polish enterprises E. Pawlowski and K. Pawlowski, Poland Investigation of "Bento" culture in focusing on the order of feeding actions M. Sarata, B. Thomas, A. Hamada, Y. Takai, A. Goto and H. Nishimoto, Japan An analysis of open innovation practices in the medical technology sector in Ireland B. McCormack, E. Fallon and K. Cormican, Ireland	
162	Safety Management Chair: M. Papanikou, UK	SMHF
8:00-10:00 - FORUM 13	Aviation risk management in open systems: A paradigm shift? M. Papanikou, UK Assessment of ATC training program outcomes and how selection models select trainees capable of adapting to the stressors of the ATC career field B. Thompson and W. Chappelle, USA The meetings of disaster victims as a space for developing community resilience J. C. Souza da Silva, R. J. Matos de Carvalho, A. Fernanda da Silva Pimenta and P. Carvalho, Brazil Ergonomics for a public transportation in integration humanized terminals L. Martins and S. Seabra, Brazil Seroprevalence of hepatitis C virus and HIV infection in firefighters and recruits from a metropolitan region of central Brazil L. Contrera, S. Andrade, A. Carvalho Pinto, P. Marchetti Fiorin, A. Stief, M. Pompilio, R. Penrabel and A. Coimbra Motta-Castro, Brazil	
163	Ergonomics Techniques Chair: J. V. Valencia, Colombia	PEHF
8:00-10:00 - FORUM 14	A methodology for the evaluation and representation of the quality of information from robbery events to achieve situation awareness in decision making systems J. Souza, L. Botega, J. Segundo and C. Berti, Brazil Mitigating the impact of occupational noise exposure for elderly workers: Setting the functional requirements for an ANC system P. Arezes, G. Pereira, M. Kroger and P. Sampaio, Portugal Maximum acceptable work time for the upper limbs task and lower limbs task J. Velásquez, L. Oritz, S. Solarte, R. Agredo and L. Briceño, Colombia An example of software to manage allocation of workers on manufacturing productive units L. Ghibauda, S. Spada, D. Germanà and F. Sessa, Italy Physical ergonomics evaluation using depth sensors A. Paiva and I. Maia, Brazil Multi-muscle co-activation and manual material handling risk assessment F. Draicchio, S. Mari, C. Conte, M. Serrao, A. Silvetti, S. Iavicoli and A. Ranavolo, Italy	

164	Distractions and Warnings Co-Chairs: G. Walker, UK, and P. Salmon, Australia	R&R
8:00-10:00 - FORUM 11	App analytics: Evaluating the distraction potential of in-vehicle device apps M. Krause, A. Conti, M. Henning, C. Seubert, C. Heinrich, K. Bengler, C. Herrigel and D. Glaser, Germany/USA How lane departure warning onset and accuracy affect driving performances and drivers' acceptance? J. Navarro, J. Deniel, E. Yousfi, C. Jallais, M. Bueno-Garcia and A. Fort, France Dynamic fatigue driving recognition based on double-level fusion W. Sun, S. Peeta and S. He, USA Teenage texting while driving – How dispositional and situational factors impact behavior M. McBride and L. Carter, USA Effects of intervals and textures of roadside columns on human speed perception Y. Yoshioka, Japan	
165	HMI Design I Chair: I. Grabarek, Poland	R&R
8:00-10:00 - FORUM 16	A comparison of display concepts for a navigation system in an automotive contact analog head-up display L. Pfannmüller, M. Kramer, B. Senner and K. Bengler, Germany The effect of dynamic (fisheye) feature in a speedometer on driver's speed reading performance S. Manna, R. Pedamallu and S. -H. Kim, USA Car inspection system M. Abulkhair, H. Sindi, B. Barsheed, M. Al-Omari, R. Al-Shehri, R. Al-Basarah and W. Al-Harbi, Saudi Arabia Tracking down the intuitiveness of gestures as interaction modality in the truck domain M. Stecher, E. Baseler, L. Draxler, L. Fricke, B. Michel and K. Bengler, Germany	
166	Design and Social Dimension Co-Chairs: J. Gilbert and D. Moon, USA	S&O
8:00-10:00 - FORUM 17	Identification of design requirements for ergonomic long spinal board using quality function deployment (QFD) H. Zadry, D. Rahmayanti, L. Susanti and D. Fatrias, Indonesia Video verification: An alternative form of identity verification J. Dunbar, P. Hall, Jr., D. Moon and J. Gilbert, USA Cultural factors: Understanding culture to design organizational structures and systems to optimize safety J. Edwards, J. Davey and K. Armstrong, Australia VAMC Orlando's ergonomic program S. Jordan and M. Escobales, USA The study of fatigue compared between touch screen and keypad mobile phones when social networking B. Sumalee, Thailand	
167	Human Factors in Urbanistic Co-Chairs: N. Stevens and P. Salmon, Australia	HFSI
8:00-10:00 - FORUM 18	Socio-technical urbanism: Exploring the optimisation of neighbourhoods as places for people N. Stevens and P. Salmon, Australia Musculoskeletal load assessment of farmers during selected agricultural works L. Kuta and J. Ciez, Poland The effect of manual harvesting of fruit on the health of workers and the quality of the obtained produce M. Mlotek, Poland Optimized systems with renewable energy and sustainable materials applied in the new urban design and building construction M. Zhou, China Meaning of open landscape in smart urban design S. Liu, China	

168	Ergonomics Modeling and Usability Evaluation III Co-Chairs: F. Jackson and J. Gilbert, USA, and J. Oliveira, Brazil	EMUSP
8:00-10:00 - FORUM 19	Remind me: Minimizing negative effects of multitasking R. Adler, S. Adepu, A. Bestha and Y. Gutstein, USA To start voting, say vote: Establishing a threshold for ambient noise for a speech recognition voting system F. Jackson, A. Solomon, K. McMullen and J. Gilbert, USA The intention of using smart device messages as parent-teacher communication from the view of parents Z. X. Chen and C. C. Chen, Taiwan Preferences and concerns regarding mobile digital TV in Brazil W. Prata and J. Oliveira, Brazil A custom made developed software with a third dimensional camera sensors in order to capture motion and measurements of the human body in order to design ergonomic work stations for manufacturing process for academic purposes C. Lopez, J. Lopez, C. Camargo and J. Olguin Tiznado, Mexico	
169	Designing the Learning Experience Co-Chairs: T. Andre and C. McClernon, USA	HFTELS
8:00-10:00 - FORUM 8	Creating a scenario design workflow for dynamically tailored training in socio-cultural perception C. Graffeo, T. St. Benoit, R. Hoppenfeld, R. Wray and J. Folsom-Kovarik, USA ExperienceMap: A tool to help training managers develop better learning experiences T. Andre, R. Meyer, K. Chik and E. Lofgren, USA Quest design for instructional third-person 3D virtual worlds: Blending two-different conceptual systems N. Flor, USA Designing schools to support socialization processes of students M. Garibaldi and L. Josias, USA Conflicts and tensions in the design discourse in distance educational processes D. Gomes, A. Arruda and K. Araújo, Brazil	
170	Human-Agent Teaming Co-Chairs: J. Chen, USA, and T. Röhling, Germany	HFUS
8:00-10:00 - FORUM 21	The TAPAS project: Facilitating cooperation in hybrid combat air patrols including autonomous UAVs P. Rauffet, J. Lassalle, B. Leroy, G. Coppin and C. Chauvin, France Coupled human-machine tele-manipulation T. Röhling, B. Brüggemann and J. Welle, Germany Unmanned vehicle plan comparison visualizations for effective human-autonomy teaming K. Behymer, E. Mersch, H. Ruff, G. Calhoun and S. Spriggs, USA Behaviour based task and workload determination of pilots guiding multiple UAVs D. Donath and A. Schulte, Germany A model-based approach for dynamic task allocation in unmanned aircraft system (UAS) operations K. Durkee, S. Pappada, A. Ortiz, J. Feeney and S. Galster, USA Transparency in human-agent teaming and its effect on automation-induced complacency J. Wright, USA	

171	Sustainable Design IV Chair: A. Fernandes, Portugal	ED
8:00-10:00 - FORUM 22	Design ergonomics and sustainability using waste fabrics and technology to create new accessories A. Fernandes and F. Silva, Portugal Color ergonomic function in urban chromatic plans M. Gamito and F. Silva, Portugal The application of ergonomic knowledge by undergraduate product design students: FAULisboa as a case study A. Dias, R. Almendra and F. Silva, Portugal Understanding the interaction of design students with portable computers in the classroom L. Lavin, E. Filgueiras, C. Figueiredo and G. Desouzart, Portugal Involving citizens in the improvement of small communities L. Guimarães and R. Bitencourt, Brazil Using rice residuals in sustainable design L. Guimarães and G. Beyer, Brazil	
10:00 - 10:30 Refreshments will be provided in Forum 24		
172	Effects of Automation on Human Performance in Air Transportation Chair: S. Landry, USA	AVI
10:30-12:30 - FORUM 1	Interaction sequences between controller and automation during a human-in-the-loop simulation A. Gomez, USA A cross-cutting human factors impact assessment of planned NextGen changes E. Austrian, K. Berry and M. Sawyer, USA Quantifying the human element of safety in airport tower operations: Overcoming risks introduced by static airport characteristics K. Berry, M. Sawyer, J. Hinson and L. Dewalt, USA The effects of using an angle of attack system on pilot performance and workload during selected phases of flight M. Bromfield and B. Dillman, UK Effect of using multiple route options and time conformance tools to deliver aircraft at departure fixes N. Bienert and E. Chevalley, USA	
173	Training Consequential Social Interactions that Involve Participants from Dissimilar Cultures Chair: R. Hubal, USA	CCDM
10:30-12:30 - FORUM 2	What does it take to train a good stranger R. Hubal, M. van Lent, R. Bechtel, S. Quinn, B. Lande and J. Wender, USA Teaching social interaction skills with stealthy training techniques S. Flanagan, S. Speira, C. Knott, F. Diedrich, K. Halverson, and Z. Horn, USA Key culture-general interactional skills for military personnel A. Logan-Terry and R. Damari, USA Rapport building and questioning strategies in cross-cultural military training scenarios R. Damari, A. Logan-Terry and G. Rubin, USA Cross-cultural training analysis via social science and computer vision methods P. Tu, A. Logan-Terry, J. Chen, G. Rubin, M.-C. Chang, J. Hockett, T. Yu and T. -P. Tian, USA Evaluation of the presentation of network data via visualization tools for network analysts R. Erbacher, R. Etoty and C. Garneau, USA	

174	Uncertainty and Decision Making Considerations Chair: K. Hale, USA	C&N
10:30-12:30 - FORUM 3	Influence of parking on train station choice under uncertainty for park-and-ride users C. Chen, J.-H. Xia, B. Smith, D. Olaru, J. Taplin and R. -L. Han, Australia Developing competencies in the process of hazard Identification in an enterprise related to the field of logistics and food A. Alvarez Gonzalez, S. Acosta Patroni and J. Garcia Vidal, Chile Analysis of pilot eye behavior during glass cockpit simulations M. N. Russi-Vigoya and P. Patterson, USA Biomarker and biometric indices of physical exhaustion in the firefighting community R. Shia, L. McIntire, J. Hagen, C. Goodyear, L. Dykstra and A. Myers, USA	
175	Modern Trends in Ergonomics, Safety of Product and Manufacturing Design Co-Chairs: M. Soares, Brazil, and B. Mrugalska, Poland	ED
10:30-12:30 - FORUM 5	Proposition of review in EEMUA 201 & ISO Standard 11064 based on cultural aspects in labor team, LNG case S. Filho and F. Pellegrini, Brazil Development of headforms for ISO eye and face protection standards Z. Zhuang and G. Niezgoda, USA Quality control methods for product reliability and safety B. Mrugalska and E. Tytyk, Poland Ergonomic analysis of the assembly and maintenance workstation of an electronic equipment company R. Barros, M. Soares and M. Marçal, Brazil	
176	Methodology Issues in Design II Chair: A. Rodea Chavez, Mexico	ED
10:30-12:30 - FORUM 7	User's typology for designing L. Mercado Colin and A. Rodea Chavez, Mexico A methodological approach to evaluate a new bicycle concept with elliptical wells F. Rebelo, A. Figueiredo, P. Noriega, T. Cotrim, T. Oliveira and T. Borges, Portugal The complexity of ergonomic in product design requirements D. Nunez Diban and L. Gontijo, Brazil Applied motion analysis on TUI design for co-cooking H. -H. Sun and F. -G. Wu, Taiwan Motion graphics ergonomics: Animated semantic system, for typographical communication efficiency J. Brandão, Portugal Observing the two- and three-dimensional application of traditional motifs in designing the products and its ergonomic values M. Sohrabi Nasirabadi and C. Cheraghi, Iran	

177	Healthcare Safety I Co-Chairs: V. Duffy and N. Lightner, USA	HC/ADHM
10:30-12:30 - FORUM 4	Study on the safety of a patient who stands up from a chair with a crutch N. Hirokawa, E. Nishiyama, N. Hasegawa, K.-I. Itose, T. Shibue, T. Hayami, T. Wawai and M. Ohmasa, Japan Human mechanics and principles of physics implicit in medical rescue education and operational practice: A case study of motor vehicle related rescue J. Bosman, N. Naidoo, L. Christopher and M. Marais, South Africa Failure mode, effects and criticality analysis (FMECA) for medical devices: Does standardization foster improvements in the practice? R. Onofrio, F. Piccagli and F. Segato, Italy Work accidents that occurred with military firefighters of Campo Grande, MS - Brazil L. Contrera, R. Pinto do Nascimento, P. Marchetti Fiorin, A. Carvalho Pinto, A. Sales, K. Zolin and L. Costa, Brazil Prevalence of musculoskeletal disorders among primary school teachers in Punjab (India) - A case study R. Moom, L. Singh and N. Moom, India	
178	HSSE: Planning Session Co-Chairs: L. Freund and W. Cellary, USA/Poland	HSSE
	10:30-12:30 - FORUM 9	
179	Safety in Complex Systems/Impact of (Distributed) Situation Awareness on Performance and Safety Chair: S. Nazir, Norway/Italy	SMHF
10:30-12:30 - FORUM 10	No alarms and no surprises: How qualitative data informs Bayesian inference of anticipated alarm sounds R. Jansen, R. Van Egmond and H. De Ridder, The Netherlands Coping with unexpected safety-critical situations - a concept for resilient (simulator) team training for operating teams F. Ritz, C. Kleindienst, J. Bruengger and J. Koch, Switzerland Space vs. chemical domains: Virtual and real simulation to increase safety in extreme context I. Schlacht, S. Nazir and D. Manca, Norway/Italy Assessment of complexity in the task to define safeguards against dynamic risks S. Filho, C. R. de Sousa and A. C. de Carvalho, Brazil Learning environment to take operational decision in emergency situation S. Filho, C. Costa, A. C. de Carvalho and G. Portela, Brazil Usability of procedures based on human factors assessment, a case of petrochemical industry in Brazil S. Filho and R. Amaro, Brazil	
180	Musculoskeletal Disorders Chair: T. Karakolis, Canada	PEHF
10:30-12:30 - FORUM 14	Neck overuse injury in CH-146 Griffon helicopter aircrews T. Karakolis, G. Fusina and P. Farrell, Canada Work ergonomic analysis at the review station at a graphic industry M. Greca and L. Moreira, Brazil The relationship between working conditions and musculoskeletal / ergonomic disorders in a manufacturing facility – a longitudinal research study D. Jones, USA Relationship between postural re-education technique during sleep and relaxation technique in sleep quality G. Desouzart, E. Filgueiras and R. Matos, Portugal Ergonomic consequences of portable computer usage in the moulds industry: Comparative study between fixed and portable computers M. Camarada and M. C. Neves, Portugal Low back risk representation by questionnaire, observational ergonomic method and real measurement biomechanical method in an assembly manufacturing plant M. Zare, France	

181	Environmental Ergonomics Chair: M. L. Ribeiro, Brazil	PEHF
10:30-12:30 - FORUM 13	Should the light be static or dynamic? S. Preto and C. C. Gomes, Portugal Heuristic and luminance of assessment functional LED luminaire model Y. Rodrigues, E. Lastra, C. Silva, M. L. Okimoto, L. Dieter and M. Catapan, Brazil Blue light: A blessing or a curse? S. Preto and C. Caramelo Gomes, Portugal Risks to hearing for amateur musicians – a subjective and objective evaluation of noise exposures in an amateur orchestra M. Penzkofer, F. Finé and K. Kluth, Germany Influence of primary screen color Landolt-C rings on vision consistency differentiation ability F. -G. Wu, Y.-C. Chou and C. -Y. Tseng, Taiwan Thermal comfort and productivity, the influence of variables architecture on office worker's workload E. Oliveira, A. Xavier, A. Michaloski, E. Montes Pizyblski and F. Torres, Brazil The physical impact of prolonged exposure to welding fumes on the health of employees M. Galindo Quiñonez, J. Lopez, C. Lopez, J. Olguin Tiznado and C. Camargo, Mexico	
182	Eco-Driving Chair: N. Stanton, UK	R&R
10:30-12:30 - FORUM 11	Haptic gear shifting indication: Evaluating acceptance and potential fuel consumption reduction J. Radlmayr, T. Selzer, A. Arcati and K. Bengler, Germany Effectiveness of predictive deceleration advice of green driving support systems P. Seewald, J. Josten, A. Zlocki and L. Eckstein, Germany E-Trike ICE Project: Innovative, concrete and ergonomic systems design to support sustainable E-Trike commercialization E. Rustico, R. Luansing and C. Pesigan, Philippines Reviewing in-vehicle systems to improve fuel efficiency and road safety A. Vaezipour, A. Rakotonirainy and N. Haworth, Australia	
183	Workload Chair: P. Salmon, Australia	R&R
10:30-12:30 - FORUM 15	Relating the detection response task to critical events – Consequences of high cognitive workload to brake reaction times O. Mantzke, R. Vilimek and A. Keinath, Germany Can we talk about speed? The effect of verbal protocols on driver speed and mental workload M. Thomas, P. Salmon, N. Goode, E. Grant and B. Scott-Parker, Australia Measuring drivers' visual attention in work zones L. Theiss, USA Analysis of visual workload while scanning through Philippine bus signage D. G. Tamayo, A. J. Portus, D. P. Bautista and F. V. Lazares, Philippines Review of eye-related physiological measures of drivers' mental workload G. Marquart, C. Cabrall and J. de Winter, The Netherlands Resurrecting driver workload metrics: A multivariate approach J. Auflick, USA	

184	Human Reliability Chair: H. Liao, USA	HFOGN
10:30-12:30 - FORUM 18	The development of dynamic human reliability analysis simulations for inclusion in risk informed safety margin characterization J. Joe, R. Boring and R. Shirley, USA The value chain for nuclear power plant control room modernization and the role of human factors J. Joe, USA Guideline for operational nuclear usability and knowledge elicitation (GONUKE) R. Boring, T. Ulrich, J. Joe and R. Lew, USA Insights from pilot testing of the IDHEAS HRA method H. Liao, USA Potential use of HMI evaluation methods in HRA M. Rasmussen, K. Laumann and K. Gould, Norway Defining human failure events for petroleum applications of human reliability analysis R. Boring, USA	
185	Risk and Injury Management in Sport and Outdoor Recreation Co-Chairs: R. Kalina, Poland, and C. Dallat, Australia	HFSOR
10:30-12:30 - FORUM 19	A fine line between pleasure and pain: Applying a systems analysis to the inquiry recommendations from the Kimberly Ultramarathon fire E. Grant, N. Goode and P. Salmon, Australia The surfing 16+ injury prevention program J. Coleman-Stark, USA Incident and near miss reporting culture in recreational hot air ballooning A. Filtress, N. Goode and R. Cook, Australia Agonology deeply esoteric science – an introduction to martial arts therapy on a global scale R. Kalina, Poland System design for wearable blood oxygen saturation and the pulse measurement device Y. Fu and J. Liu, China Science of martial arts – example of the dilemma in classifying new interdisciplinary sciences in the global systems of the science evaluation and the social consequences of courageous decisions R. Kalina and B. Barczyński, Poland Musculoskeletal injuries in amateur sport practiced in organizations M. C. Neves, R. Canotilho de Almeida and M. C. Santos, Portugal	
186	Innovation in HCI Chair: I. L. Nunes, Portugal	HFSysl
10:30-12:30 - FORUM 17	Interfaces for distributed remote user controlled manufacturing: Working individually or in collaborative group? V. Spasojević Brkić, G. Putnik, Z. Veljković, A. Essdai, H. Castro and V. Shah, Serbia/Portugal Exploiting the potential and facing the challenges of mobile devices: Application examples I. Nunes, Portugal The flexible interface using a stretch sensor I. Hirata, H. Nakamoto, H. Ootaka and M. Tada, Japan The interactive holography as metaphor and innovation in optical representation in design E. Barcellos and G. Botura, Jr., Brazil Human factors considerations for the application of augmented reality in an operational railway environment N. Hall and C. Lowe, UK Water metaphor for living among screen problematic B. David and R. Chalon, France Study on heuristics evaluation: Evaluation shopping+ application R. Q. Pierre, Brazil	

187	System Design and Development of Unmanned Systems I Chair: P. Savage-Knepshield, USA	HFUS
10:30-12:30 - FORUM 21	Unmanned Aerial System (UAS) human-machine interfaces: New paradigms in command and control D. Ison, B. Terwilliger, and D. Vincenzi, USA Operator informational needs for multiple autonomous small vehicles A. Trujillo, H. Fan and L. Hempley, USA Human systems integration (HSI) risk reduction excursions in teleoperated programs C. Burns, USA Performing human systems integration (HSI) design of teleoperated systems using human figure modeling R. Kozycki, USA A historical account of human system integration risk during the design and development of unmanned army systems K. Light, USA	
188	Human Error Analysis and Workplace Design Co-Chairs: R. Reyes, Mexico, and G. Balbinotti, Brazil	ED
10:30-12:30 - FORUM 22	Association between human error and occupational accidents' contributing factors for hand injuries in the automotive manufacturing industry R. Reyes, A.-A. Maldonado-Macias, J. de la Riva, A. Wookay and R. De la O, Mexico Design of work place and ergonomics in garment enterprises O. Kaya, Turkey The ergonomist: A full design actor. Example of an ergonomic action throughout an industrial project J. Dutier, F. Guennoc and J. Escouteloup, France Use of work routines of observation tool to promote continuous improvement in a production line A. Varasquin, L. Vieira and G. Balbinotti, Brazil International management of sociotechnical projects: A case study in a vehicle assembly process G. Balbinotti and A. Paupitz, Brazil Lean manufacturing and ergonomic working conditions in the automotive industry Z. Santos, L. Vieira and G. Balbinotti, Brazil The impact of lighting (colour temperature) in the wellbeing of people while using interior environments C. Gomes, Portugal	
189	Affective and Pleasurable Design V Co-Chairs: S. Choi, USA and Y. G. Ji, Korea	APD
13:30-15:30 - FORUM 1	The happiness difference between two Chinese worker groups: A comparison between migrant workers on production line and local workers in railway electrical supply section B. Liu and W. Zhang, China The experimentation of matrix and design principles for product emotion D. Shin and Z. Wang, USA Human factors in the design of emotion aware gaming: Examining affective computing in gaming with brain-computer interfaces N. Aldahash and A. Al-Wabil, Saudi Arabia Fashion design: The project of the intangible M. C. Sanches, B. Hernandis Ortuño and S. R. Martins, Brazil The research and application of multimedia in interaction design Y. Wang and H. Cao, China	

190	HMI Design II Chair: K. Young, Australia	R&R
3:30-15:30 - FORUM 2	The effect of varying target sizes and distances between target and non-target elements on goal-directed hand movement times while driving A. Conti, F. Kremser, M. Krause, D. J. An and K. Bengler, Germany An examination of the effect of Google glass on simulated driving performance K. Young, A. Stephens, K. Stephan and G. Stuart, Australia Effects of cognitive load on traveler response under real-time travel information provision D. Song and S. Peeta, USA Traffic light displays and driver behaviors: A case study L. Grepo, G. Felicio, V. Reyes and L. Yupingkun, Philippines	
191	Cross-Cultural Issues in Training, Education and Assessment Co-Chairs: S. Schatz and J. Cohn, USA	CCDM
13:30-15:30- FORUM 3	Crisis management simulations: Lessons learned from a cross-cultural perspective T. Endsley, J. Reep, M. McNeese, P. Forster and A. Gale, USA Cultural training as behavior change L. Johnson, USA Research toward developing a culture of learning in the U. S. Army J. Murphy, A. Siskind and K. Metcalf, USA Making the case for an ecological approach to cross-cultural competence training and assessment K. Behymer, J. Mateo and M. McCloskey, USA Embedding emotional intelligence into military training contexts K. Oden, M. Lohani, M. McCoy, J. Crutchfield and S. Rivers, USA	
192	Air Traffic Control Human Factors Chair: H. S. Yoo, USA	AVI
13:30-15:30 - FORUM 4	A proactive assessment of the changing non-conformance risk profile for arrival and departure procedures in NextGen M. Sawyer, K. Berry, A. Henderson, R. Rohde and D. Liskey, USA Coordinated departure scheduling system for metroplex airspace and its benefits H. -S. Yoo, E. Palmer and E. Chevalley, USA Analysis of adaptability patterns of humans in human-machine systems S. Landry and N. V-P. Nguyen, USA Visual scanning in an air traffic control tower – A simulation study P. Manske and S. Schier, Germany Shifts in ability requirements as perceived among aviation operators H. Eissfeldt and K. Gayraud, Germany	
193	Methodology Issues in Design III Chair: L. Prado-Leon, Mexico	ED
13:30-15:30 - FORUM 6	Color preferences in household appliances: Data for emotional design L. Prado-Leon, Mexico Work at height: Neglect or improvisation in civil construction in Brazil and Uruguay? A. Tavares, J. Silva, C. Souza, Júnior, C. Galvéz and M. Soares, Brazil Size effects on the usability of tablets in pointing and typing tasks C. -C. Lai, L.-W. Kuo and T. -M. Chuang, Taiwan Dream journal design for creative inspiration recording Y. -L. Hsu and F. -G. Wu, Taiwan Qualitative research methods and tools applied to the study of the suitability of the interior design of sleeper truck cabins sold in Brazil to the real needs of users A. P. Mello, D. Dantas and A. Ventura, Brazil Creative design of 3D film glasses based on ergonomics C. Xiaojin, Taiwan	

194	Healthcare Devices III Chair: T. Bagian, USA	HC
13:30-15:30 - FORUM 8	Ergonomic maternity dress design Y. Shang and X. Hu, China A proposal of an index to measure press-through package design similarity M. Kimura and S. Suzuki, Japan Purchasing for safety: Beginning a conversation with medical device industry partners T. Bagian, N. Lightner and K. Jacobs, USA Surface EMG evaluation of medical sonography scanning task – A pilot study A. Sengupta and G. Ahmed, USA Proactively investigating “limits of use” with medical device manufacturers T. Bagian, A. Pandya and K. Jacobs, USA	
195	Hand in Hand: Innovating Meaningful Services in Digital and Human Networks Co-Chairs: M. Toivonen and M. Hasu, Finland	HSSE
13:30-15:30 - FORUM 9	Introduction to the session “Hand in hand: Innovating meaningful services in digital and human networks” M. Toivonen, Finland Employee-driven design activities for services: a case study in elderly-care K. Watanabe and T. Nishimura, Japan From ‘a jungle of services into a garden of services’: Human being at the core of service integrations M. Hasu and M. Toivonen, Finland Service business models in the digital age: Key challenges and solutions for the service platforms L. Mitronen, Finland, Integrating human motivation into service productivity A. Banerjee, Germany Development of a conceptual framework for improving safety for pedestrians using smartphones while walking: Challenges and research needs X. Kong, S. Xiong, Z. Zhu, S. Zheng and G. Long, China	
196	Ergonomic Design of Future Production Systems II Co-Chairs: J. N. Serratos-Perez, Mexico, and K. Cichomska, UK	MFG
13:30-15:30 - FORUM 10	Simulating vicious circles in a new product introduction system K. Cichomska, C. Yin, C. Clegg, A. Kumar, M. Robinson, A. McKay and D. Knott, UK An agile warehouse management system to calculate the shortest path through a genetic algorithm L. Chirici and K. Wang, Italy Evaluation approach for measuring the skill transfer level in the forging die polishing H. Kito, H. Nishimoto, Y. Takai, A. Goto and H. Hamada, Japan Suzhal – An alternative layout to improve productivity and worker well-being in labor demanded lean environment S. S. Gnanavel and V. Balasubramanian, India The Foxconn Empire -- world’s largest electronic contracting manufacturer C. Zhao, China	

197	Occupational Risks and Musculoskeletal Disorders Co-Chairs: E. Blankenheim, USA, and J. Veronesi, Jr., Brazil	PEHF
13:30-15:30 - FORUM 5	Veronesi index of ergonomic risk for activities repetitive of members upper limbs J. Veronesi, Jr. and R. Pereira and R. Pereira da Silva, Brazil The collective dimension of port work: A case study in the port of Leixões, Portugal A. Motter, Brazil Use of the Meta-Posture™ Program in the construction industry E. Blankenheim, A. Blankenheim, J. Dorris, C. Festge, D. Blankenheim and M. Adlington, USA Ergonomic evaluation and physiological stress among workers in the construction industry in the northern border of Mexico L. Avila Zavala, J. Lopez, C. Camargo, C. Lopez and J. Olguin Tiznado, Mexico A survey on work stress and job burnout of pilots on safety performance J. Ziruo, China Study on impact of background characteristics of inspector on the performance of civil aviation safety oversight F. Chen, L. Long and W. Zou, China Air traffic incidents and the physical conditions of the workplaces of the air traffic controllers in the Portuguese Air Force M. Pereira and M. C. Neves, Portugal	
198	Ergonomics in New Technology Chair: P.-L. Teh, Malaysia	PEHF
13:30-15:30 - FORUM 13	Technology Acceptance and Hand Anthropometry (TAHA) Model: Insights from somatosensory technology P. -L. Teh, P. Ahmed, R. Goonetilleke, E. Y. L. Au, S.-N. Cheong, W.-J. Yap, Australia/Hong Kong/Malaysia Applying Fitts' Law to gesture based computer interactions R. Burno, R. Doherty, B. Wu, R. Elnaggar and H. Colett, USA An augmented ε-constraint method for multi-objective operating theater scheduling by considering human reliability A. Najjarbashi, Iran, and G. Lim, USA Task performance evaluation using a smart-phone behavior capture application U. Reischl and R. Oberleitner, USA "Will use it, because i want to look cool". A comparative study of simple computer interactions using touchscreen and in-air gestures V. Vaidyanathan and D. Rosenberg, USA A system dynamics approach for modeling civil aviation maintenance men's habitual violations Y. Wang, M. Li and W. Zou, China	
199	Driving Performance and Public Transport II Co-Chairs: R. Ilroy and G. Walker, UK	R&R
13:30-15:30 - FORUM 11	Empowering people with disabilities using urban public transport J. Schlingensiepen, E. Naroska, T. Bolten, O. Christen, S. Schmitz and C. Ressel, Germany Interactive displays in public transport – challenges and expectations S. Hörold, C. Mayas and H. Krömker, Germany Forecasting of financial series for the Nevada Department of Transportation using deterministic and stochastic methodologies H. De la Fuente-Mella, A. Paz-Cruz, R. Conover and A. Khan, USA Long-term discomfort evaluation: Comparison of reported discomfort between a concept elevated driving posture and a conventional D. Gyi, J. Smith and N. Mansfield, UK Multinomial logistic regression model for predicting driver's drowsiness using behavioral measures A. Murata, Y. Fujii and K. Naitoh, Japan Perceived discomfort glare from an adaptive driving beam headlight system compared with three low beam lighting configurations I. Reagan and M. Brumbelow, USA	

200	Social Influence and Cultural Factors Chair: N. Abrams, USA	S&O
13:30-15:30 - FORUM 16	Development of a quick instrument measuring Kaizen culture (for Chinese) L. Tsao, P.-L. Rau and L. Ma, China Cultural complexity: Why shoe choice and cord messiness may wreck an office ergonomic program's success N. Abrams, USA The influence of parent-child toys and time of playing together on attachment T. -L. Yeh and J. -H. Chang, Taiwan Is it ethical to give out unreadable information in advertising? J. Iio, Japan An Obeya room from Toyota system to increase visual effects in project management in the Senai-RS PMO F. Campana and L. Trabasso, Brazil	
201	Ergonomic Evaluation in Architecture Co-Chairs: K. Fross and K. Ujma-Wróńciewicz, Poland	HFSI
13:30-15:30 - FORUM 17	Use of qualitative research in architectural design and evaluation of the built environment K. Fross, M. Sitek, D. Masly, D. Winnicka-Jasłowska and A. Gumińska, Poland Almost human architecture. The example of Polish architecture in which the context of human factor supports the identity of building idea N. Juzwa, K. Ujma-Wróńciewicz and A. Gil, Poland Barriers to successful implementation of sustainable construction in the Ghanaian construction industry C. Aigbavboa, S. Ametepey and K. Ansah, South Africa Effects of construction projects schedule overruns: A case of the Gauteng Province, South Africa M. Mukuka, C. Aigbavboa and W. Thwala, South Africa	
202	Ergonomics Modeling and Usability Evaluation IV Co-Chairs: K. Nazemi, Germany, and J. Tanaka, Japan	EMUSP
13:30-15:30 - FORUM 18	Web-based evaluation of information visualization K. Nazemi, D. Burkhardt, D. Hoppe, M. Nazemi and J. Kohlhammer, Germany Finger click detection using a depth camera H. Karam and J. Tanaka, Japan Developing a system architecture for cyclist violation prediction models incorporating naturalistic cycling data A. Jahangiri, H. Rakha and T. Dingus, USA 3D virtual environment system applied to aging study – biomechanical and anthropometric approach C. Guimarães, V. Balbio, G. Cid, M. Zamberlan, F. Pastura and L. Paixao, Brazil Ergonomic work analysis in cooperative waste pickers T. Nascimento, D. Muniz and M. Vieira de Melo, Brazil Satisfaction of electronic channels and its antecedents: An empirical study R. Zhou, I. Zhang and H. Guo, P. R. China	
203	Training Applications in Military and Operational Environments Co-Chairs: C. McClernon and T. Andre, USA	HFTELS
13:30-15:30 - FORUM 14	Simulation in military training - Development of best practices for simulation-based training (SBT) in the Royal Australian Navy (RAN) S. Hanna, Australia Towards effective training for process and maritime industries S. Nazir, K. Øvergård, Z. Yang and L. Sorensen, Norway ShadowBox™: Flexible training to impart the expert mindset N. Polander, J. Borders and G. Klein, USA Application of performance shaping functions to distributed soldier representations in simulation environments M. Diego and C. Burford, USA A cognitive-band analysis of cyber defense for training D. Nicholson, J. Zientz and R. O'Grady, USA	

204	System Design and Development of Unmanned Systems II Co-Chairs: J. Alfredson, Sweden, and G. Osga, USA	HFUS
13:30-15:30 - FORUM 21	Shore control centers for unmanned ships – addressing the human factors challenges M. Wahlström, J. Hakulinen, I. Lindborg, T. Kymäläinen and H. Karvonen, Finland Situation awareness for mid-air detect-and-avoid system for remotely piloted aircraft J. Alfredson, P. Hagström and B. -G. Sundqvist, Sweden Human-computer interface studies for semi-autonomous unmanned surface vessels G. Osga and M. McWilliams, USA User-center design (UCD): A human factors engineering best practice for command & control (C2) acquisition A. Lemon and M. Cowen, USA Pilot workload during manned-unmanned teaming D. Durbin, USA	
205	Virtual Reality and Ergonomic Design Co-Chairs: R. Sakpal, USA, and I. Landa-Avila, Mexico	ED
13:30-15:30 - FORUM 22	User experience in augmented reality applied to the welding education M. L. Ribeiro, P. Okimoto and C. Goldbach, Brazil Emotion generation for virtual agents based on PMC (personality-mood-culture) cognitive rules R. Sakpal, K. Jordine and D. -M. Wilson, USA Dialogical self on virtual reality systems: Presence and embodiment in human situated interaction A. C. França and M. Soares, Brazil Effect of subjective evaluation factors on the buying decision of residential furniture F. Cortés Chavez, R. Avila-Chaurand and I. Landa-Avila, Mexico Critical success factors in the development and implementation of special purpose industrial tools: An ergonomics perspective F. Gauthier and D. Lagace, Canada Integrating TUIS and free-form gestures into an innovation gesture form F. -G. Wu and Y. -C. Huang, Taiwan Emotional attributes of urban furniture G. Pizzato and L. Guimarães, Brazil	
206	Systems Engineering Applications II Co-Chairs: D. Jaramillo, USA, and S. Réhman, Sweden	HFSSE
13:30-15:30 - FORUM 15	Evolution of the mobile enterprise app: A design perspective R. Newhook, J. Temple, K. Duke and D. Jaramillo, USA Embodied video conferencing for cross cultural communications M. Sikandar Lal Khan and S. Réhman, Sweden Active vision for tremor disease monitoring A. Halawani, S. Réhman and H. Li, Sweden Modeling and predictive analysis for systems of systems R. Subramanian, Z. Chen, L. Chung and K. Cooper, USA System dynamics modeling approaches to sociotechnical systems analysis L. Hettinger, A. Jetha, G. Pransky, S. Jeffries and M. Dainoff, USA Integration in a controlled environment system for diagnosis and prevention of labor risks in working stations using a sensor mote and a programmable integrated circuit device J. C. Pellegrini, J. Lopez, J. Olguin Tiznado, C. Camargo, C. Lopez and G. Julio, Mexico Exploring mobile banking adoption in Saudi Arabia S. AlHumoud, Saudi Arabia	

15:30-16:00 Refreshments will be provided in Forum 24		
207	Methods of Analyzing User Behaviors and Designing Affective Experiences Co-Chairs: P.-L. P. Rau and Y. Zhang, China	APD
16:00-18:00 - FORUM 1	A design of augmented tabletop game based on RFID technology J. Tan and P. -L. Rau, China How large is your phone? A study of smartphone preference and comfort perception P. -L. Rau, Y. Zhang, L. Biaggi, R. Engels, L. Qian and H. Ribjerg, China Gaze behavior during lane changes and the effects of speed and lane width: Investigation into duration of lane changes L. Zhang and W. Zhang, China Studying the acceptance of somatosensory game for Chinese square dancers C. -W. Yu and P. -L. P. Rau, Taiwan Human-driven design solution: A holistic approach D. Cho, South Korea	
208	Population and Stability Modeling Chair: M. Bernard, USA	CCDM
16:00-18:00 - FORUM 3	Tools for validating causal and predictive claims in social science models A. Sliva and S. N. Reilly, USA A methodology and tool for effective multi-perspective task planning T. Darr, R. Mayer, A. Jain and J. Volosen, USA Understanding sector dependencies in the stabilization and reconstruction of nation-states S. Hall and C. Blais, USA Developing a capability to elicit and structure psychosocial decision information within computational models M. Bernard, USA Information operations G. Van Nederveen, USA	
209	SPECIAL EVENT: CCDM Photography Contest Co-Chairs: S. Schatz and J. Cohn, USA	CCDM
16:00-18:00 - FORUM 6	San Fermín siesta, Basque prisoners to the Basque Country, Break for a buck, A cheesy delivery and Dance like no one is watching N. Polander, USA After the battle, Ride into history, Cafe toast, Eye of the storm L. Stern, USA Transylvanian humor, Art safari, and The great Reno balloon races: Dawn patrol M. Alama, USA Playground, Fall festival warrior, Sax in the park, No homeless people here J. Schlachter, USA Holi S. Mukherjee, India Night lights B. Santiago, USA	

210	Multimodal Design Considerations Chair: A. Kolbeinsson, Sweden	C&N
16:00-18:00 - FORUM 7	Mind the body: How embodied cognition matters in manufacturing A. Kolbeinsson and J. Lindblom, Sweden Hear me flying! Does visual impairment improve auditory display usability during a simulated flight? B. Valéry, V. Peysakhovich and M. Causse, France EEG/ERP as a measure of mental workload in a simple piloting task M. Causse, E. Fabre, L. Giraudet, M. Gonzalez and V. Peysakhovich, France Psycho-physiological response by 3D image and sound S. Satake and H. Hagiwara, Japan A study on the relationships between drivers' emotions and physiological signals S. Chae, South Korea	
211	Applied Digital Human Modeling IV Co-Chairs: V. Duffy and K. Gielo-Periczak, USA	ADHM/HC
16:00-18:00 - FORUM 4	Predicting realistic and precise human body models under clothing based on orthogonal-view photos S. Zhu and P. Y. Mok, Hong Kong Modeling visually guided hand reach for digital human models N. Bhatia, D. Sen and A. Pathak, India Situating cognition within the virtual world P. Smart and K. Sycara, UK Blindness and online interaction: Beyond design standards O. Alshathry, Saudi Arabia A social network model on family name evolution Y. Ma, China	
212	Ergonomics and Safety Management Chair: B. Mrugalska, Poland	ED
16:00-18:00 - FORUM 8	Design proposal of an adjustable workstation for very short and very tall people J. Hernandez, J. Nieves Serratos-Perez, A. De la Torre, A.-A. Maldonado-Macias and J. Garcia, Mexico Evaluation of safety climate level in a production facility I. Gabryelewicz, J. Sadłowska-Wrzesińska and E. Kowal, Poland The usability of architectural space: Objective and subjective qualities of built environment as multidisciplinary construction M. Bittencourt, Brazil Stress sources, stress symptoms and anger styles as a psychosocial risk at occupational health and safety: A case study on Turkish police officers S. Aytac, Turkey Aspects regarding necessity of education in ergonomics in Romania M. Boatca and S. Irimie, Romania	
213	Education Design Co-Chairs: S. Coomans, Belgium, and R. C. Silva Salomão, Portugal	ED
16:00-18:00 - FORUM 9	Mass and density of materials: Civil engineering students' knowledge and perceptions J. Smallwood and J. Wium, South Africa Evaluation of educational software: Development of a grid for mathematical software of discovering learning S. Coomans and G. Santos, Belgium Evaluation of care indicators while using an analog and digital test designed to cognitive training in older adults C. Rojas and D. Jimenez R, Colombia Designer's education to user's definition process A. Rodea Chavez and L. Mercado Colin, Mexico Defining personas of university students for the development of a digital educational game to learn Portuguese as a foreign language R. C. Silva Salomão, F. Rebelo and F. Gamboa Rodriguez, Portugal	

214	Disorders and Pain Reduction in Patients and Employees Co-Chairs: C. Or, Hong Kong, and V. Duffy and N. Lightner, USA	HC
16:00-18:00 - FORUM 5	The rate of subjective mental workload and its correlation with musculoskeletal disorders in bank staff in Kurdistan, Iran E. Darvishi and M. Meimanatabadi, Iran Developing a digital game for domestic stroke patients' upper extremity rehabilitation – design and usability assessment M. -H. Chen, L.-H. Huang and C. -H. Wang, Taiwan Preventative strategies beyond ergonomics suggest to address the occupational and lifestyle risk factors associated with chronic low back pain B. Bidassie, L. Zhang, V. Duffy and Y. Gao, USA Psychosocial risks in the morgue workers P. Vasconcelos and M. C. Neves, Portugal The functional pulmonary diminished capacity and his effect in the productivity of the workers: case of study of spirometry in the north border of Mexico with the United States Y. Rubalcava, J. Lopez, C. Camargo, J. Olguin Tiznado and C. Lopez, Mexico Association of low back pain to whole-body vibration in mining truck drivers G. Moraes, L. Silva and R. Sampaio, Brazil	
215	Systems Engineering Applications III Chair: S. Joshi, USA	HFSSE
16:00-18:00 - FORUM 11	An observational study of usability in collaborative tangible interfaces for complex planning systems T. Alrashed, A. Almalki, S. Aldawood, T. Alhindi, I. Winder, A. Alfaris and A. Alwabil, Saudi Arabia Handling complexity of a model in system design: Framework, formalism and metrics H. Aboutaleb and B. Monsuez, France Etransplant - App to improve transplant process in São Paulo - Brazil C. Oliveira, C. Silva, R. Yokomizo, L. Caetano and L. Haddad, Brazil Implementing end-to-end integrated DevOps in a hybrid cloud environment S. Joshi, USA Graph-based sparse representation for image denoising Q. Ge, W. Shao, X. Cheng, H. Li, Y. Dong and W. Zhuang, China An ICT service classification framework of smart cities R. Al-Nutaifi, Saudi Arabia	
216	Data Analysis for O2O Service Design (DaOSD) Chair: T.-M. Tsai, Taiwan	HSSE
16:00-18:00 - FORUM 14	An O2O commerce service framework and its effectiveness analysis with application to proximity commerce T. -M. Tsai, W.-N. Wang, Y.-T. Lin and S. -C. Chou, Taiwan Customer's flow analysis in physical retail store Y. -K. Wu, H.-C. Wang, L.-C. Chang and S. -C. Chou, Taiwan Constructing concept space from social collaborative editing W. -T. Hsieh, S.-C. Chou, P.-C. Yang and C. -H. Tsai, Taiwan Unveiling the mysteries of the "black hole" in recruiting systems: Connecting recruiters and job seekers like a jigsaw puzzle L. Lim, Y. Wang, M. Nazrul Islam and Y. Hoshino, Australia User data analysis for improving social learning service design R. Lin and T. -M. Tsai, Taiwan	

217	Safety and Human Error Chair: A. Szopa, Poland	PEHF
16:00-18:00 - FORUM 15	Applying and evaluating the Maintenance Error Decision Aid (MEDA) in the Royal Bahraini Air Force (RBAF) K. Bu-Allay, Bahrain A study of the method for supporting an analysis of the latent PSFs in the potential incidents - Development of the prototype system for auto-extraction/assessment of latent PSFs that are included in the report documents K. Kiyota and Y. Okada, Japan Case study: inquiry of an accident in a construction site B. Vasconcelos and B. Barkokébas, Jr., Brazil A study on a structure of customers' mental images on the safety in railroad services - An evaluation of safety management in transportation bureau from the viewpoint of customers' satisfaction/comfort/safety M. Wakata, Y. Okada, K. Seki and K. Takahashi, Japan The relationship between self-efficacy and unsafe behavior among aviation maintenance workers F. Chen, J. Yang and W. Zou, China	
218	Accidents and Safety II Chair: K. Plant, UK	R&R
16:00-18:00 - FORUM 17	The behavior analysis of pedestrian-cyclist interaction at non-signalized intersection on campus: Conflict and interference B. Li, S. Xiong, X. Li, M. Liu and X. Zhang, China Pedestrian crossing patterns preference at a non-signalized crosswalk R. Jamil, S. Xiong, X. Kong, S. Zheng and Z. Fang, China Promising innovation in driver improvement courses (case study) P. Zamecnik, V. Kureckova and P. Rezac, Czech Republic Why young drivers commit offenses? P. Rezac, V. Kureckova and P. Zamecnik, Czech Republic The reasons of growth culpability of the human factor in traffic accidents Y. Puhach, V. Samsonkin and V. Druz, Ukraine The effectiveness of Malaysia's automated speeding and red light running enforcement programs N. Isah and N. F. Mohd Soid, Malaysia	
219	Usability and Assistive Technology III Chair: S.-Y. Chiang, Taiwan	EMUSP
16:00-18:00 - FORUM 18	Accessibility in soccer stadiums: infrastructure and organization in support of people with reduced mobility - A use analysis S. Yazigi, A. Resende and R. Yazigi, Brazil Icon design for children's digital games S. -Y. Chiang, Taiwan Promotion of user-friendly town planning by making use of a participatory tool, a UD action-oriented ergonomics checklist: An application trial at the international tourist city Kamakura S. Horino and K. Kogi, Japan Designing for retweets - a study on Twitter interface design focusing on retweet-ability Y. -H. Hung, D.-S. Hwu, C. Arkenson and Y. -C. Lee, Taiwan Eco-efficiency and environmental ergonomics: The production of ceramic bricks in the Brazilian Amazon S. Mota, B. Ortuño, K. Pachêco, V. Cardoso and E. Merino, Brazil Ergonomic analysis of clothing for children with special needs (wheelchair users) R. De Campos, Brazil Senior people motion analysis applied to interior home design C. Guimaraes, G. Cid, M. Zamberlan, V. Balbio, F. Pastura, L. Paixao, M. Fraga and V. Santos, Brazil	

220	Oil, Gas, and Nuclear Industries Co-Chairs: J. Cho and G. Lim, USA	HFOGN
16:00-18:00 - FORUM 19	Evaluating generated risk event effect neutralization as a new mitigation strategy tool in the upstream industry M. Alkazimi, H. Altabbakh, S. Murray and K. Grantham, USA Developing telemedicine in the oil and gas industry A. Fernandes, T. E. Ejemo and K. Reegård, Norway Liquefied natural gas ship route planning model: A risk analysis approach T. Biobaku, G. Lim, J. Cho, H. Parsaei and S. Kim, USA/Qatar Safety and security management with unmanned aerial vehicle (UAV) in oil and gas industry J. Cho, G. Lim, T. Biobaku, S. Bora and H. Parsaei, USA/Qatar	
221	Creativity, Learning and Behavior Co-Chairs: R. Giannantonio, Italy and F. Barretto, Brazil	HFSysl
16:00-18:00 - FORUM 21	Dynamic ride sharing service: Are users ready to adopt it? R. Giannantonio, E. A. M. Guercio, E. Gargiulo, G. Zenezini and C. Borean, Italy Approach to the issues of leadership in the processes of companies' acquisitions A. Stankiewicz-Mróz, Poland Like us on Facebook! – Analyzing user preferences regarding privacy settings in Germany S. Kowalewski, M. Ziefle, H. Ziegeldorf and K. Wehrle, Germany Zer0: An emergent and autopoietic multi-agent system for novelty creation in game art through gesture interaction F. Barretto and S. Venturelli, Brazil ARENA (Augmented reality engine) H. Gamal, A. Badr, A. Hassanein, A. Abdallah, M. Kamel and K. Najeeb, Egypt	
222	Human Factors, Business Management and Society: Society and Environment Chair: P. Castillo, Mexico	HFBMS
16:00-18:00 - FORUM 22	Analysis of future prospects of environmental, physical and psychosocial working conditions on companies offering services P. Castillo Galván and L. Niño Luna, Mexico Factors forming work motivation in Japan Y. Taguchi, Japan Knowledge creation and learning within the building project orientation of organizations S. Marsina, A. Hamranova, F. Okruhlica and V. Bolek, Slovak Republic Modelling structural activity system of R&D firms in a developing economy to enhance new practices implementation M. -A. Sanda, Ghana Does CEO nationality matter? Evidence from Canadian and Russian enterprises based in China D. Pedyash, C. Shi, A. Belov and E. Dushenko, China	
223	Healthcare Safety II Co-Chairs: M. Christman and B. Fasanya, USA	HC/ADHM
16:00-18:00 - FORUM 13	Caregivers' concerns – age-group issues on workplace violence B. Fasanya and E. Dada, USA Analysis of the influence of hospital bed height on kinematic parameters associated with patient falls during egress M. Christman, J. Morse, C. Wilson, A. Doig, N. Godfrey, D. Bloswick and A. Merryweather, USA Integrating teamwork, clinician well-being, and patient safety A. Welp, L. Meier and T. Manser, Switzerland/Germany Sickness absenteeism in the military firefighter P. Marcheti Fiorin, L. Contrera, A. Carvalho Pinto, A. Sales, E. Cury Pontes and A. Mendonça, Brazil Comparison of whole-body vibration in two types of truck used in mining G. Moraes, L. Silva and R. Sampaio, Brazil	

Interactive Poster Demonstrations

Posters will be displayed Tuesday, July 28 - Thursday, July 30, 2015. Posters must be removed by the end of each day/session they are scheduled to be demonstrated. Posters can be positioned starting on Tuesday, July 28, 8:00, and removed by the last poster session on Thursday, July 30, after 13:00

TUESDAY JULY 28 **POSTER DEMONSTRATION SESSIONS** **SESSION TIME: 10:30-12:30**

- A1. Measurement of amenity in buildings interiors coated with ceramic insulating paint
T. Oda, T. Nakai, H. Jianbo and K. Toba, Japan
- A2. On the influencing factors of dictionary app interface design for the elders
W.-T. Chang, C.-L. Lin, C.-C. Chuang and K.-C. Huang, Taiwan
- A3. The implementation of the electronic medical records system in health care facilities
C. Bain, USA
- A4. "Thumbs-Up", Do your friends really like your photos?
S.-W. Huang, S.-J. Hung and K.-C. Lo, Taiwan
- A5. Camera position for facial recognition while opening a package for the first time
M. N. Russi-Vigoya and C. Harper, USA
- A6. The study for the increase of user experience from vehicle seat and acquiring seating information
S. Choi and Y.-D. Kim, South Korea
- A7. Ergonomics as element of process and production optimization
J. Labuttis, Germany
- A8. How to evaluate the detectability of a vibratory signal in autonomous driving conditions?
V. Duthoit, J.-M. Sieffermann, E. Enrègle and D. Blumenthal, France
- A9. MAVERICK: A synthetic murder mystery dataset to support sensemaking research
M. Jenkins, A. Bisantz, R. Nagi and J. Llinas, USA
- A10. Study of analysis method for improvement of ERD/ERS detection accuracy by signal processing
S. Nagamori and H. Tanaka, Japan
- A11. Memory of Things (MoT) - Interactive product design for the senior's reminiscence activity
C.-K. Lim, Taiwan
- A12. Unmanned commercial flights: An emotional mediation analysis
S. Rice and K. Oyman, USA
- A13. Management program in health workers for offshore
R. Pereira and X. Valis, Brazil
- A14. Relationship between waist to height ratio and cardiovascular risk factors in workers
R. Agredo Zuñiga, E. García Ordoñez, J. Velasquez Valencia and M. Suarez Ortégón, Colombia
- A15. A pilot study of the resistance training effect on force fluctuations after local fatigue
Y.-T. Lin, Taiwan
- A16. Effectiveness analysis of the external airbag based on road traffic accident data
Y. Ju, J. W. Suh, Y. S. Kim, T. W. Chung and S. Y. Sohn, Korea
- A17. Angle measurement of wrist and elbow joints by flexible strain sensor
H. Nakamoto, H. Ootaka, I. Hirata, M. Tada, F. Kobayashi and F. Kojima, Japan
- A18. Developing a virtual environment for launch officers
J. Korzatkowski and L. Sciarini, USA

Interactive Poster Demonstrations

- A19. Applying IBM design thinking principles in building a cross platform cloud backed secure note-taking application
C. Lu, D. Jaramillo, R. Smart and T. Cook, USA
- A20. Effects of access to a physiologically-based operator workload monitor on dynamic team workload balancing
G. Funke, B. Knott, A. Strang, A. Dukes, B. Miller, R. Brown and L. Menke, USA
- A21. Blind children learn three-dimensional shape by the progressive mode - for example in human organs
C. Yang and E. Tzou, Taiwan
- A22. Change management based approach for evaluating disruptive technologies in healthcare environment: Measuring perceived organizational readiness and nurses' attitudes toward disruptive change
R. Obeidat and A. Norcio, USA
- A23. Effect of operating position on working posture and physical workload of wheelchair user
M. Kadamatsu and A. Seo, Japan
- A24. System requirements of a virtual reality game for patients with neuro-deficits: Therapists as the users
H.-S. Lee, C.-Y. Tsai, P.-C. Li, S.-S. Chen, T.-Y. Yu and S.-C. Fan, Taiwan
- A25. Detection of ergonomic risk in agricultural work in Jalisco State
E. L. González-Muñoz, México
- A26. Preliminary study about social influence over wayfinding decisions
C. Silva, F. Rebelo, E. Vilar and P. Noriega, Portugal
- A27. InnoLeap: A concept design approach for radical innovations
H. Karvonen, M. Wahlström and E. Kaasinen, Finland
- A28. Human factors in dynamic and multi-systems rehabilitation approach
K. Gielo-Perczak, J. Chomack, N. Lombardi, R. Schafer and S. Warshauer, USA
- A29. Performance modeling of interacting human-machine distributed processes
R. Ritchie and J. Wedgwood, USA
- A30. Identifying affective states in human computer interaction by acoustic speech analysis: Paralinguistic insights from think-aloud protocols
N. Backhaus, J. Tenardi, J. Krajewski, S. Schnieder, S. Roelen and G. Hidalgo, German
- A31. Methodology for prospective evaluation of ladder safety protocols using automated force and inertial sensing
E. Wade, S. Chaeibakhsh and J. Fairbrother, USA

TUESDAY JULY 28 **POSTER DEMONSTRATION SESSIONS** **SESSION TIME: 13:30-15:30**

- D1. Ergonomic investigation of interventional radiology
K. Shinohara, Japan
- D2. Professional and novice differences in domain general and domain specific tasks: When expertise impacts cognitive and visual processes
S. McMichael and L. Matzen, USA
- D3. Evaluation of driver behavior at double-lane roundabout entry
S. Hammond, USA
- D4. Anthropometry importance of ergonomics in design fashion
P. Reis, M. Soares, C. Reis, J. Estrázulas, A. Moro, J. Santos, D. Reis and O. Silva, Brazil

Interactive Poster Demonstrations

- D5. Human-tablet and COW interaction: Posture and fatigue in health care occupations
T. Visich, E. Gama and D. Nathan-Roberts, USA
- D6. Using CrowdFlower to study the relationship between self-reported violations and traffic accidents
J. de Winter, M. Kyriakidis, D. Dodou and R. Happee, The Netherlands
- D7. Work risk incidence and harm to the musculoskeletal system. Data report from a Mexican hospital
J. Nieves Serratos-Perez, C. Negrete-Garcia, M. Gasca-Barajas and C. Hidalgo-Valadez, Mexico
- D8. Organizational analysis of work and cognitive ergonomics in self-management working groups in the cosmetic industry
F. Santana and R. Filus, Brazil
- D9. Detection of arm's movement locomotion by using autocorrelation
I. Abe and H. Tanaka, Japan
- D10. Development of the "QOC Matrix- The worker's voice" (Part 2)
M. Contreras-Valenzuela and J. Miranda-Sanchez, Mexico
- D11. Frequency of application of mental workload measuring instruments in recent publications in Brazil
B. Gruginski, L. Gontijo and E. Merino, Brazil
- D12. Occupational safety and health during rescue activities
M. Petho and L. Makovicka Osvaldova, Slovakia
- D13. Evaluation of a radio tuning task on android while driving
M. Krause, C. Angerer and K. Bengler, Germany
- D14. Diagnosis of poor safety culture in OHSAs 18001-certified companies
A. Ghahramani, Finland
- D15. Use of electroglottograph (EGG) to find a relationship between pitch, emotion and personality
H. Lu, H. T. Liu, S. L. See and P. Y. Chan, Singapore
- D16. Study of electrode number and placement for BCI based on classification rate of P300
Y. Ijichi and H. Tanaka, Japan
- D17. Towards the development of a human factors - safety behaviour structural model
T. Mariri and R. Griessel, South Africa
- D18. Relation between mental workload and visual information processing
J. Wang, R. Otsuka, K. Yamanaka, K. Shioda and M. Kawakami, Japan
- D19. The relationship between the purpose with occupational therapy by origami and the EEG-band-powers
H. Tanaka and A. Kaneko, Japan
- D20. Noise exposure and noise-induced hearing loss in industries
I. Wictor, A. Xavier and A. Michaloski, Brazil
- D21. An interactive fuel-altitude-time display for replanning events
D. Young, M. Voshell, S. Kane, R. Kilgore and C. Hogan, USA
- D22. Study on the current status of safety and health environment and personal protection design to Korea livestock farmers
I. Kim, K.-S. Lee, K. Kim, H.-S. Chae and S. Kim, Korea
- D23. Structure and foundations of an ergofuzzy approach of safety issues in complex systems
M. Vidal, G. Martins and C. Cosenza, Brazil
- D24. Usability analysis of a complex system: A website designer case study
C. Smith and B. Bellows, USA
- D25. Establishing guidelines for producing audiovisual recording for ergonomic assessments
J. Freund and M. Vidal, Brazil
- D26. Engineering the cognitive edge: A decisive soldier system
D. Patton, S. Kase and G. Boykin, USA

Interactive Poster Demonstrations

- D27. The effects of green displays on night adaptation
E. Ledford, A. Preiss, D. Thomas, V. Finomore and C. McClemon, USA
- D28. Health promotion community support for vitality and empathy - visualize quality of motion (QoM)
T. Nishimura and K. Fukuda, Japan
- D29. Effects of parallax from an augmented reality display on tracking performance
H. Janssen, C. denHollander, C. Bishop, C. McClemon and V. Finomore, USA
- D30. Building human-automation integration scheme for manned-unmanned teaming
S. Y. Kim and S. Levulis, USA
- D31. Functional restoration of the spine (RFR): 5 years of experience North Caribbean Hospital (CHNC) Site of Carbet, Martinique, French
H. Azanmasso, J. Boivin, B. Carra and V. Andresz, France
- D32. Study of elderly driver's driving behavior characteristics to hazard events using a driving simulator
J. Xu and Y. Lin, USA
- D33. Health risks of microbus drivers in Mexico City
L. Berrones Sanz, Mexico
- D34. Methodological approaches for use virtual reality to develop emergency evacuation simulations for training, in emergency situations
S. Fernandes Bernardes, F. Rebelo, E. Vilar, P. Noriega and T. Borges, Brazil/Portugal

WEDNESDAY JULY 28 **POSTER DEMONSTRATION SESSIONS** **SESSION TIME: 10:30-12:30**

- B1. Work ergonomic analysis at the quality material inspection station in a graphic industry
M. Greca and L. Moreira, Brazil
- B2. Improvisation at workplace and accident causation - an exploratory study
A. Amorim and C. Pereira, Brazil
- B3. Reflections on the 1951 Fitts list: Do humans believe now that machines surpass them?
J. de Winter and P. Hancock, The Netherlands
- B4. Human resources management in the system of organizational knowledge management
J. Lendzion, Poland
- B5. Symptoms of MSDs in dental students: A contribution to prevention with gymnastics
T. Coelho, A. Xavier, S. Chiodi, E. Orenha, D. Hortelã, M. Caldana and J. R. Bastos, Brazil
- B6. Analysis of school desks from public schools in Joinville, Brazil
V. Ferrari Fernandes, E. Concepcion Batiz and A. Berretta Hurtado, Brazil
- B7. Learning effects of location based mixed reality game: A pilot study
J.-L. Doong, C.-H. Lai, K.-H. Chuang and C.-C. Hsu, Taiwan
- B8. Ergonomic analysis of work in an eyeglasses store
S. Coeli, M. Lima, M. do Carmo Medeiros, P. Procópio and J. A. Pereira de Araújo, Brazil
- B9. Usability and user experience of technical aids for people with disabilities: A preliminary study with a wheelchair
L. Carneiro, F. Rebelo, E. Filgueiras and P. Noriega, Portugal
- B10. Control of a robotic knee exoskeleton based on movement intention detection
T. Bastos-Filho, A. Frizera-Neto, A. C. Villa-Parra, D. Delisle-Rodríguez A. López-Delis and R. Sagaró, Brazil

Interactive Poster Demonstrations

- B11. Human Factors in the design of medical simulation tools
N. Al-Romi, Saudi Arabia
- B12. Implementation and automatic generation of hierarchical task analysis for immersive validation
N. Stanton, K. Plant, L. Rentzos, C. Vourtsis and S. Antoniou, UK
- B13. Separation of SEP by independent component analysis: Influence of motor area in SEP
Y. Ohtaki and H. Tanaka, Japan
- B14. Motivational climate in United States Army Reserve Officer Training Corps physical training: Implications for leadership development, retention and intervention
M. Fischer, USA
- B15. The contribution of safe driving training in educating drivers to risk perception
F. Biassoni, S. Balzarotti and R. Ciceri, Italy
- B16. Safety performance of the full harness in various falling postures of wearer
Y. Hino, Japan
- B17. Automation for security and safeguard the physical integrity of the community CECyT 7 "Cuauhtemoc"
I. Reyes and S. M. Vazquez Soto, Mexico
- B18. Prevention of physical phishing against tag-based services
M.-K. Lee, South Korea
- B19. Optimizing the task distribution between the nursing staff and the support services
P. Kekkonen and S. Väyrynen, Finland
- B20. Making innovation work: Using 3D CAD virtual prototype evolution in train component design
C. Fletcher and P. Kootstra, Australia
- B21. Factors influencing driver decision-making during truck egress: Implications for interventions to reduce the likelihood of falls
M. Lesch, A. DiDomenico, Y. Choi and D. Money, USA
- B22. The influence of mental workload on self-disclosure when typing and handwriting
S. Y. Kim and K. H. Han, South Korea
- B23. Human factors design of a low-cost adjustable wheel locking system for a child's wheelchair
K. Young and L. Stanley, USA
- B24. Developmental trajectories of team physio-behavioral coupling during the early learning phase of a cooperative supervisory control task
A. Strang, G. Funke, S. Russell and V. Mancuso, USA
- B25. Manual handling workload of individual and team in females: Literature review
N. Sato, Japan
- B26. A method of evaluating time-dependent success probability of human recovery safety functions after high-stress extreme accident conditions of nuclear power plants
J. W. Park and J. Kim, Korea
- B27. Research on workplace safety sign compliance: Validation of a virtual environment prototype
L. Reis, E. Duarte and F. Rebelo, Portugal
- B28. Diabetes management evaluation based on American Diabetes Association standards of care
A. Albarak and R. Rafiuddin Mohammed, Saudi Arabia
- B29. Human factor diamond framework for information security behavior in organizations
A. Alhogail, I. M. bin Saud Uni and A. Mirza, Saudi Arabia
- B30. Role of the brain during concurrent physical and mental fatigue development: A neuroergonomic approach
R. Mehta, USA

Interactive Poster Demonstrations

- B31. The end of jet-lag? Shifting the inner clock by chronobiologically effective cabin lighting on long-haul flights
S. Roelen, S. Schnieder, A. Leder and J. Krajewski, Germany
- B32. Linearized stability and HOPF bifurcations for a nonautonomous delayed predator-prey system
L. Wang, China

WEDNESDAY JULY 28 POSTER DEMONSTRATION SESSIONS SESSION TIME: 13:30-15:30

- E1. Pedestrian level crossing intervention
M. Oberg, Australia
- E2. Engineering a lung cancer screening (LCS) program in the Veterans Healthcare Administration (VHA): Human centered design (HCD) of a graphic user interface (GUI)
R. Monte, L. Tang, N. Katich, H. Bachtel and P. Taibi, USA
- E3. The development of location-based mobile augmented reality (LoMAR)
J. -L. Doong, C.-H. Lai, K.-H. Chuang and C. -C. Hsu, Taiwan
- E4. Analysis comparative of human parts more susceptible to develop WRMD in companies of various activities
G. Colaço, J. Lima, F. Másculo, I. Machado de Medeiros and E. Colaço, Brazil
- E5. The relationship between wet bulb globe temperature and physiological strain index in Muslim women in hot-dry condition in the climatic chamber
P. Habibi, H. Dehghan, S. Rezaei and K. Maghsoudi, Iran
- E6. Force evaluation and comparison for supply trolley in a hospital
Y. T. Chan and W. K. Kam, Singapore
- E7. Participatory ergonomics promoting occupational healthy
F. L. Ferreira and L. Gontijo, Brazil
- E8. Quality of work life and mental health in primary care physicians
R. Gonzalez-Baltazar, G. Hidalgo-Santacruz, S. Leon-Cortes, M. Contreras-Estrada, M. Aldrete-Rodriguez and B. J. Hidalgo-Gonzalez, Mexico
- E9. Glass vs. plastic: Affective judgments of food packages after visual and haptic exploration
S. Balzarotti, B. Maviglia, F. Biassoni and M. R. Ciceri, Italy
- E10. Effects of the low amplitude oscillation applied to the control device on hypofunction in muscle spindles
H. Mukae, Japan
- E11. Dynamic numerical analysis of the "Foot - Training Shoe" model
X. Chen, X. Hao and S. Zhao, P. R. China
- E12. Risk management: How novice and expert drivers adjust their driving behaviors when they feel drowsy
P. Bérastégui, C. François, C. Piette, T. Langohr, J. Wertz, J. Verly and A. -S. Nyssen, Belgium
- E13. Reaction time and glance behavior of visually distracted drivers to an imminent forward collision as a function of training and auditory warning
D. Bakowski, S. T. Davis and W. F. Moroney, USA
- E14. Characterization of human limitations and impediments for cyber situational awareness
S. Hunt and R. Gutzwiller, USA

Interactive Poster Demonstrations

- E15. Estimation of mental workload during motorcycle operation
R. Otsuka, J. Wang, T. Chihara, K. Yamanaka, K. Morishima
and H. Daimoto, Japan
- E16. Leader-member exchange and employees' safety behavior: The moderating effect of safety climate
F. Zhou and C. Jiang, China
- E17. Design of the framework to develop farm safety certification system for Korean farmers
H. Chae, I. Kim and K. -S. Lee, Korea
- E18. Using debriefings to enhance learning in acute care teams
J. Seelandt, M. Kolbe and B. Grande, Switzerland
- E19. The likelihoods of bicyclist steering patterns in response to being passed by motorists
C. -H. Lai, J.-L. Doong, K.-H. Chuang and C. -C. Hsu, Taiwan
- E20. A new ergonomics-related job factors questionnaire for nursing workers – the development phase
M. Coluci and N. Alexandre, Brazil
- E21. Disclosure of medical errors: Improving quality in health care through accountability
J. Kaira, Canada
- E22. A preliminary study of just culture decision aid for aviation industry
Y. -L. Hsiao, C.-J. Chao and C. -C. Kuo, Taiwan
- E23. The effects of modern aircraft augmented reality displays on spatial disorientation
C. Lackey, D. Perkins, V. Finomore and C. McClernon, USA
- E24. Measurements of communication intelligibility during military air lift operation
B. McNeese, J. Shults, V. Finomore, C. McClernon, B. Simpson and
D. Brungart, USA
- E25. Improving human interaction and safety through mentoring systems in the fire service
A. Dyal, D. DeJoy and T. Smith, USA
- E26. Spatial representations of time
E. Lee and K. Han, South Korea
- E27. SAFE-T: An online younger driving training program
J. Young, USA
- E28. Using human factor injury scenario assessments to create a safer Bosch eBike
A. Judge, USA
- E29. An approach for IDC development program uptake of resilience engineering
D. Coelho, A. Couvinhas and P. Ferrara, Portugal
- E30. Organizational maturity for manufacturing in the automotive industry
R. Ruan, Mexico
- E31. Fitness tracking in a corporate environment to improve work performance and lower health care costs
M. Segalla, France
- E32. Integration of visualizations into existing Air Operations Centers decision support systems
R. Pokorny, D. Capers, A. Babcock, C. Rogers and J. Ianni, USA
- E33. An elastic interface for artistic composition and performance
J. Salamanca, C. Arce-Lopera and D. Gomez, Colombia

Interactive Poster Demonstrations

THURSDAY JULY 28 POSTER DEMONSTRATION SESSIONS SESSION TIME: 10:30-12:30

- C1. Changes of driving performance and gaze behavior of novice drivers in a driving simulator
P. Van Leeuwen, R. Happee and J. De Winter, The Netherlands
- C2. A study on cause analyses of fatal injuries by the mobile cranes in Republic of Korea
W. Shin, Korea
- C3. Software architecture for Crowdsourc: Collaborative ideation process
N. Jaafar, Saudi Arabia
- C4. Training on ergonomic risk prevention for telemarketing operator: Methodological aspects
B. Moraes, F. Gonçalves, E. Santos da Silva and A. Moraes, Brazil
- C5. Analysis of the role of job stress in the presence of musculoskeletal complaints, mediated by ergonomic factors
E. Luz González-Muñoz and R. Avila-Chaurand, Mexico
- C6. Probing into the evaluation of flight training in special environment based on EMGs
L. Zhang, W. Zhang, Z. Zhu and L. Ding, China
- C7. Effective temporal awareness support can hinder change detection
B. Roberge-Vallières, C. Mallat, S. Tremblay and F. Vachon, Canada
- C8. An assessment model for SEO techniques for optimizing web visibility in web search results
M. Al-Jadaan, Saudi Arabia
- C9. Types of anatomic conformity of cardiac conduction system
G. Spirina, Russia
- C10. The effect of three ergonomics intervention on work-related posture and musculoskeletal disorders in office workers (computer users) Gas Company of Esfahan
E. Habibi, Iran
- C11. Money back, not guaranteed: A systems analysis of dark web carder markets
D. Lacey and P. Salmon, Australia
- C12. Agonology as a deeply esoteric science – introduction to martial arts therapy on a global scale
R. Kalina, Poland
- C13. Virtual environment evaluation for a safety warning effectiveness study
A. Almeida, F. Rebelo, P. Noriega and T. Borges, Portugal
- C14. Demerit point in the Czech Republic - analysis and implication
P. Zamecnik, M. Šucha, V. Kureckova and P. Rezac, Czech Republic
- C15. Occupational gymnastics as a valuable tool for well-being and productivity to employees
C. Roncato, C. Zogheib and R. Bornhausen Demarch, Brazil
- C16. A virtual reality-based system to train the workforce on the safe practices in a manufacturing environment
K. Chalil Madathil, A. Gramopadhye and J. Bertrand, USA
- C17. Integrative physical and cognitive training development to better meet airmen mission requirements
M. Fischer, J. Stone, T. Hawkes, E. Downs, A. Strang and E. Eveland, USA
- C18. The coaching stress management
J. Garcia, Mexico
- C19. Age and cognitive load effects on response to multisensory warning in simulated driving
L. Eriksson and L.-M. Lundqvist, Sweden

Interactive

Poster Demonstrations

- C20. How to prevent miscommunication – analysis of the communication of operation instructor with the worker
R. Nakamura, Japan
- C21. Aging-related changes in walking motion among independent Japanese elderly
S. Muraki, H. Nakashima, K. Fukumoto and O. Fukuda, Japan
- C22. Improving control room operators' availability with biofeedback based support
G. Szabó and A. Jóvér, Hungary
- C23. Tie the knot: The significance of human factors bonding in the oil and gas industry
J. -Y. Jian, K. Poblete, M. Mathur and B. Poblete, USA
- C24. User interfaces for future submarine command rooms
D. Fay, A. Roberts and N. Stanton, UK
- C25. Characterizing temporal patterns in team communication in a large-scale air-combat simulation training exercise
A. Strang, C. Best, G. Funke, S. Russell and V. Mancuso, USA
- C26. EAMETA: A friendly method of participatory analysis of work situations
R. Bonfatti, M. Vidal, J. Mafra, L. Moreira and S. Ricart, Brazil
- C27. Redesigning a commenting user interface by focusing on the user's task
C. Coyle, M. Peterson and J. Nemargut, USA
- C28. Avoiding accidents with biological exposure for health professionals
C. Zogheib, C. Roncato and R. Bornhausen Demarch, Brazil
- C29. A voice in the wind: A phenomenological exploration of outdoor education leader experiences
S. Field and J. Meldrum, Canada
- C30. The effects of user interface complexity and information load on consumer decision making
B. Bellows and C. Smith, USA
- C31. Time differences and error rates between low-frequency tacton cues and audio cues in blind navigation of a complex maze
R. Jimenez, A. Jimenez and R. Alabdaly, USA
- C32. Social Rehabilitation of children with diabetes (type 1)
H. Almaizar, Saudi Arabia
- C33. Safety paradox of shift work in Chinese coal mines
H. Chen, H. Yu and R. Long, P. R. China
- C34. Scenario validation for a virtual reality-based study: Interview anxiety and a nature-like surrounding
T. Borges, S. Ramos, E. Vilar, P. Noriega and F. Rebelo, Portugal
- C35. Adaptive human-automation cooperation: A general architecture for the cockpit and its application in the A-PiMod Project
D. Javaux, F. Fortmann and C. Moehlenbrink, Belgium

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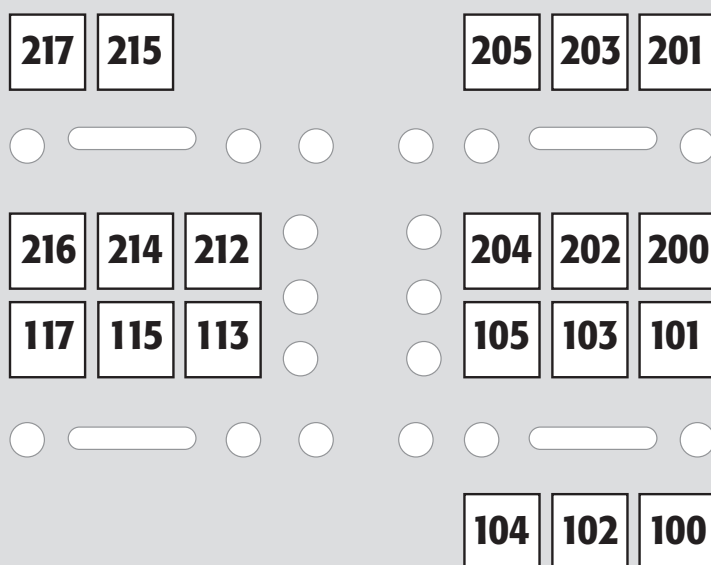
Forum 24

EXHIBITION HOURS
28 JULY: 11:00 TO 17:00
29 JULY: 10:00 TO 17:00
30 JULY: 10:00 TO 14:00

CONFERENCE SPACE	COMPANY NAME AND WEB SITE
100	Smart Eye - www.smarteye.se
101	Globo-sa, Inc.
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103	NexGen Ergonomics Inc. - www.nexgenergo.com
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214	Phasya - www.phasya.com/en
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216	Xsens - www.xsens.com
217	Ashgate Publishing - www.ashgate.com

Layout

of the Exhibit Booths



**Forum 24
 Ballroom
 (Pool Level)**

Caesars Palace Conference Center

AHFE 2015 International Conference will be held at Caesars Palace Conference Center

Monday, July 27, 2015 • 17:00 - 18:30

Opening Session and Keynote Address will be held at Forum 25 (Pool Level)

Monday, July 27, 2015 • 19:00

Conference Reception will be held at Milano Ballroom (Promenade Level)

Tuesday-Thursday July 28-30, 2015 • 8:00 - 18:00

All conference sessions will be held at Forum Ballroom (Pool Level)

Tuesday July 28, 2015 • 11:00 - 17:00

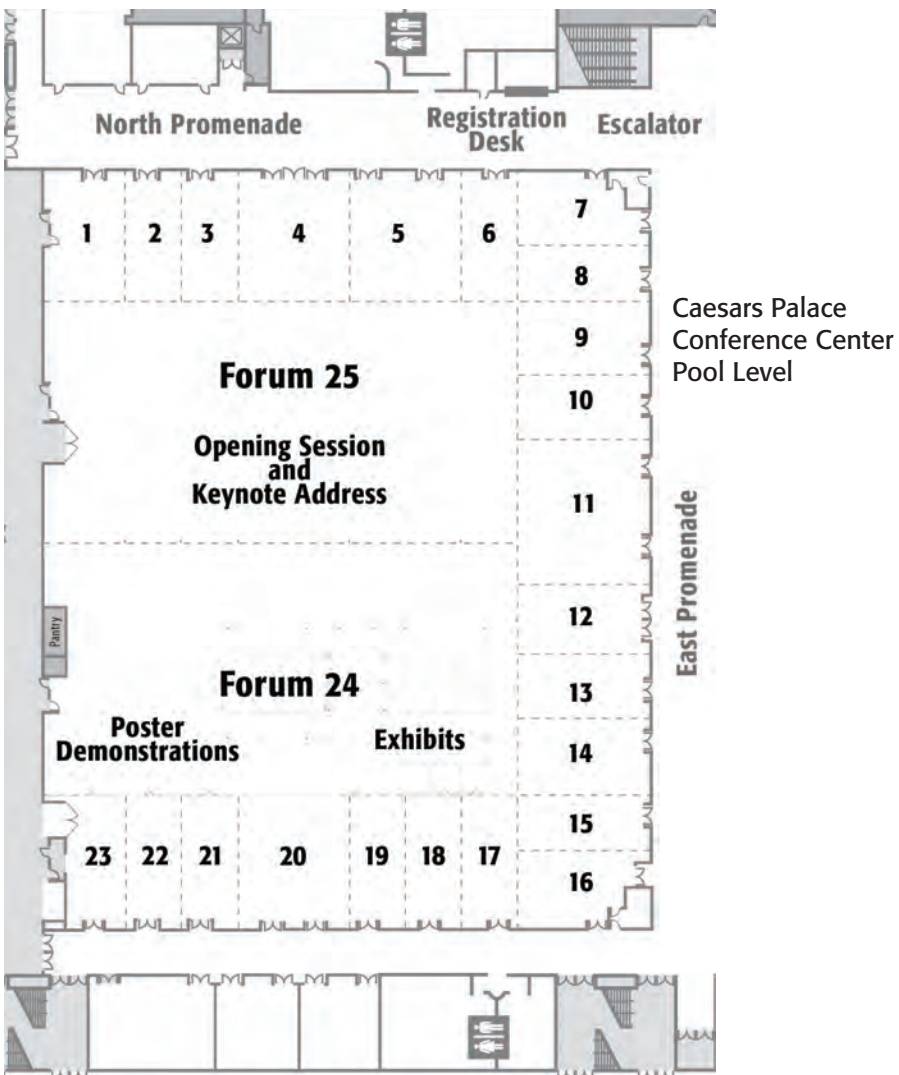
Wednesday July 29, 2015 • 10:00 - 17:00

Thursday July 30, 2015 • 10:00 - 14:00

Conference Exhibition will be held at Forum 24 Ballroom (Pool Level)

Tuesday-Thursday July 28-30, 2015 • 10:30 - 15:30

Poster Demonstration sessions will be held at Forum 24 Ballroom (Pool Level)



Conference Contacts

Conference Track	Chair/Co-Chairs
1st International Conference on Human Factors in Cybersecurity	J. Lockett-Reynolds K. Muse
1st International Co-Evolve Conference on Human Factors, Business Management and Society	H. Vanharanta J. Kantola
1st International Conference on Human Factors and Systems Interaction	I. L. Nunes
1st International Conference on Human Factors and Unmanned Systems	D. Nicholson P. Savage-Knepshield A. Tvaryanas
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1st International Conference on Human Factors in the Oil, Gas, and Nuclear Industries	S. Cetiner P. Fichtelkotter
1st International Conference on Human Factors of Robots and Exoskeletons: Rehabilitation and Assistance	K. Gielo-Perczak
1st International Symposium on Human Factors in Training, Education, and Learning Sciences	T. Andre
2nd International IBM Symposium on Human Factors, Software, and Systems Engineering	B. Amaba B. Dalgetty
2nd International Conference on Safety Management and Human Factors	P. Arezes P. Carvalho
2nd International Conference on Human Factors and Sustainable Infrastructure	J. Charytonowicz
3rd International Conference on Affective and Pleasurable Design	Y. G. Ji, Korea S. Choi
3rd International Conference on The Human Side of Service Engineering	L. Freund W. Cellary
3rd International Conference on Human Factors in Transportation	Road and Rail: N. Stanton Aviation: S. Landry Maritime: G. Di Bucchianico A. Vallicell
3rd International Conference on Ergonomics In Design	M. Soares F. Rebelo
4th International Conference on Cross-Cultural Decision Making: Focus 2015	J. Cohn S. Schatz
4th International Conference on Human Factors and Ergonomics in Healthcare	V. Duffy N. Lightner
4th International Conference on Digital Human Modeling & Human Factors	V. Duffy K. Gielo-Perczak
16th International Conference on The Human Aspects of Advanced Manufacturing (HAAMAHA): Manufacturing Enterprises in a Digital World	S. Trzcielinski
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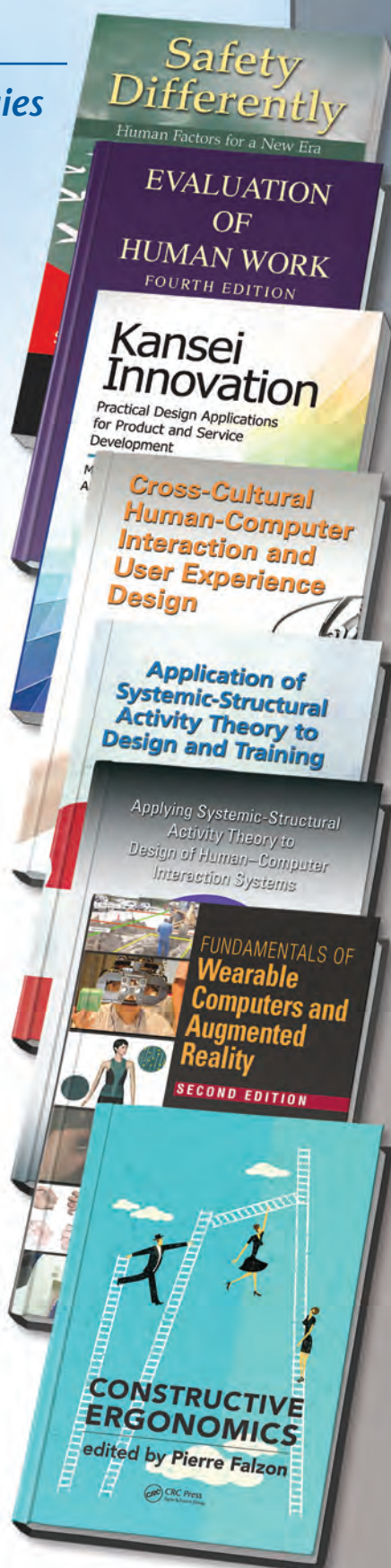
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AHFE2016 will be held at the **Walt Disney World[®]** Swan and Dolphin Hotel, Florida, an award-winning resort with luxurious, stylish and comfortable room features, complemented with ultra-modern conference amenities and upgrades. The resort offers world-class attractions and theme parks. Take a complimentary water taxi or leisurely stroll to **Disney's Hollywood Studios[®]** or **Epcot[®]**. Continuous complimentary transportation is provided to all other **Walt Disney World[®]** theme parks and attractions.



Orlando, Florida

As one of the world's busiest tourist destinations, the city of Orlando offers just about everything – spectacular shows, shopping centers and restaurants, theme park attractions, and the natural beauty of the surrounding lakes and parks.

Orlando is known as "The Theme Park Capital of the World" and in 2014 its tourist attractions and events drew more than 62 million visitors.



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