

**AHFE**  
International

Applied  
Human Factors  
and Ergonomics  
Conference

**2014**

[www.AHFE2014.org](http://www.AHFE2014.org)

# 2014 AHFE International

## 5<sup>th</sup> International Conference on Applied Human Factors and Ergonomics

jointly with  
1<sup>st</sup> International IBM<sup>®</sup> Symposium  
on Human Factors, Software, and Systems Engineering

1<sup>st</sup> International Conference  
on Safety Management and Human Factors

1<sup>st</sup> International Conference  
on Human Factors and Sustainable Infrastructure

2<sup>nd</sup> International Conference  
on The Human Side of Service Engineering

2<sup>nd</sup> International Conference  
on Affective and Pleasurable Design

2<sup>nd</sup> International Conference  
on Human Factors in Transportation

2<sup>nd</sup> International Conference  
on Ergonomics in Design

2<sup>nd</sup> International Conference  
on Science, Technology, Higher Education,  
and Society in the Conceptual Age: STHESCA 2014

3<sup>rd</sup> International Conference  
on Human Factors and Ergonomics in Healthcare

3<sup>rd</sup> International Conference  
on Cross-Cultural Decision Making

3<sup>rd</sup> International Conference  
on Applied Digital Human Modeling

and  
15<sup>th</sup> International Conference  
on The Human Aspects of Advanced  
Manufacturing (HAAMAHA):  
Manufacturing Enterprises  
in a Digital World

**19-23 July 2014**

Jagiellonian University  
Kraków, Poland

# Final Program



Co-organized by the Faculty of Management  
and Social Communication

JAGIELLONIAN UNIVERSITY  
IN KRAKÓW

Under the auspices of 16 distinguished international Boards  
consisting of 482 members from 50 countries.

**[www.ahfe2014.org](http://www.ahfe2014.org)**

[www.ahfe2014.org](http://www.ahfe2014.org) 1

# Opening Plenary Session and Keynote Address

Sunday, July 20, 2014 • 18:30 - 19:45

Auditorium Maximum

Chair: Dylan Schmorrow

Scientific and Technical Advisor

## INTRODUCTORY REMARKS

Jacek Ostaszewski, Dean

Faculty of Management and Social Communication, Jagiellonian University

Gavriel Salvendy, Conference Series Founder and Scientific Advisor

Tadeusz Marek, General Conference Co-Chair

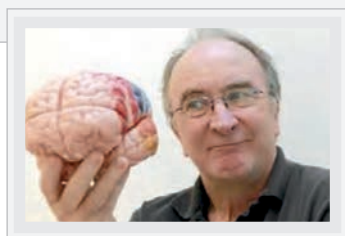
Waldemar Karwowski, General Conference Co-Chair

## THE MIND NEAR THE EDGE: A NOVEL VIEW OF BRAIN FUNCTION

### Professor Dante R. Chialvo

The National Research and

Technology Council (CONICET), Argentina



### Keynote Speaker

Dante R. Chialvo received his M.D. diploma (1982) from the National University of Rosario, in Argentina. His career spans more than two decades at top Universities throughout the globe, including Northwestern University, UCLA at Los Angeles and the Santa Fe Institute among a dozen others. He has published extensively on the dynamics of complex natural phenomena in a wide variety of fields. In neuroscience, Dr. Chialvo is known for his work dedicated to understanding the large-scale organization of the brain in health and disease and the development of mathematical tools to better describe the state of mind, in particular for the seminal work with the late Per Bak on critical phenomena in the brain. He returned recently to his homeland, thanks to a strong drive to repatriate scientists, where he is a Senior Scientist of the National Research Council of Argentina.

### Presentation

A well functioning machine is often associated with something that repeats exactly each time a given performance. The same intuition is used to describe malfunction as randomness and unpredictability. Of course, these two extremes hardly can be associated with a healthy brain. An increasingly recognized view in neuroscience assumes that brain function is neither at any of these two extremes, but stays always at a critical dynamical regime near the edge of order and disorder. This conjecture, developed together with the late Per Bak, states that the most fundamental cognitive properties of the functioning brain are only possible because it is spontaneously close to the border of such instability. The proximity to an instability confers the brain with the ability to generate a bewildering variety of robust and flexible behavior, associated with the abundance of metastable states at the critical point. In this talk, we review the main motivation and then briefly describe key neuroimaging experimental results which support this view. Finally, we discuss which aspects of the mind dynamics could be usefully explained in terms of critical phenomena, as well as the lesson and implications for the present conference. Papers and background information can be found at [www.chialvo.net](http://www.chialvo.net)

# Tutorials

## PRE-CONFERENCE TUTORIALS

Half-Day Tutorials will be offered on Saturday, July 19  
and Sunday, July 20, 2014 at Jagiellonian University

Tutorial Refreshments - Provided in room 0.302

### SATURDAY, JULY 19

#### 8:00 - 12:00

- Cross-Cultural User-Experience Design  
Presenter: Aaron Marcus  
Room: 0.305
- Human Factors and Ergonomics in Flexible Manufacturing Systems  
Presenters: Christopher Schlick and Jennifer Buetzler  
Room: 0.308

#### 13:00 - 17:00

- Human Factors in Health Care: Fundamentals in Human Performance and Patient Safety  
Presenter: Vince Duffy  
Room: 0.309
- A Practical Guide to Doing Task Analysis  
Presenter: Neville Stanton  
Room: 0.311

### SUNDAY, JULY 20

#### 8:00 - 12:00

- Updating Ergonomic Skills for Designing Products and Environments to Increase Performance and Well-Being  
Presenter: Peter Vink  
Room: 0.305
- Systems Safety Analysis: From Inductive to Deductive Techniques  
Presenter: David Kaber and Nancy J. Currie  
Room: 0.308

#### 13:00 - 17:00

- Augmented Cognition: A Practitioners Perspective and Recommendations on Achieving Effective Human-Systems Integration  
Presenter: Dylan Schmorrow  
Room: 0.309
- Human Factors and Ergonomics in Control Room Design  
Presenter: Toni Ivergard  
Room: 0.311

**CONFERENCE**  
**RECEPTION/BANQUET:**  
**SUNDAY, JULY 20 • 20:00**  
**AUDITORIUM MAXIMUM**  
**(TICKET REQUIRED)**  
Dress is business casual

# Conference at a Glance

## REGISTRATION DESK OPEN:

DAY	TIME	PLACE
Friday, July 18	13:00 - 18:00	(Jagiellonian University- new campus)
Saturday, July 19	7:00 - 18:00	(Jagiellonian University- new campus)
Sunday, July 20	10:00 - 19:00	(Auditorium Maximum - near Market Square)
Monday, July 21	7:00 - 18:00	(Jagiellonian University- new campus)
Tuesday, July 22	7:30 - 16:00	(Jagiellonian University- new campus)
Wednesday, July 23	7:30 - 12:00	(Jagiellonian University- new campus)

**EXHIBITS ARE LOCATED IN THE FOYER ON THE GROUND FLOOR**

**POSTERS ARE HELD ON THE GROUND FLOOR**

**COFFEE BREAKS ARE PROVIDED IN THE FOYER ON THE GROUND FLOOR**

ACRONYM	TRACK
HFSSE	1st International IBM® Symposium on Human Factors, Software, and Systems Engineering
SMHF	1st International Conference on Safety Management and Human Factors
HFSI	1st International Conference on Human Factors and Sustainable Infrastructure
APD	2nd International Conference on Affective and Pleasurable Design
AVI, MAR, RR	2nd International Conference on Human Factors in Transportation
ED/EMUSP	2nd International Conference on Ergonomics In Design/Ergonomics Modeling, Usability & Special Populations
HSSE	2nd International Conference on Human Side of Service Engineering
STHESCA	2nd International Conference on Science, Technology, Higher Education, Society in the Conceptual Age: STHESCA
CCDM	3rd International Conference on Cross-Cultural Decision Making
DHMHF	3rd International Conference on Digital Human Modeling & Human Factors
HC	3rd International Conference on Human Factors and Ergonomics in Healthcare
MFG	15th International Conference on Human Aspects of Advanced Manufacturing (HAAMAHA): Manufacturing Enterprises in a Digital World
CN	Cognitive and Neuroergonomics
PEHF	Physical Ergonomics & Human Factors
SO	Social and Organizational Ergonomics

# Conference at a Glance

DAY	TIME	ROOM	SPECIAL MEETINGS (BY INVITATION ONLY)
Saturday, July 19	8:00-18:00	3.202	FEES Meeting
Tuesday, July 22	16:00-18:00	0.305	International Panel on Patient Handling Ergonomics (IPPHE)
Tuesday, July 22	18:15	0.305	Scientific Advisory Board: Human Side of Service Engineering
Tuesday, July 22	18:15	0.308	Scientific Advisory Board: Cross-Cultural Decision Making
Tuesday, July 22	18:15	0.311	Scientific Advisory Board: Conference on Applied Digital Human Modeling
Tuesday, July 22	18:15	1.202	Scientific Advisory Board: Ergonomics in Healthcare
Tuesday, July 22	18:15	1.201	Scientific Advisory Board: Affective and Pleasurable Design
Tuesday, July 22	18:15	3.201	Scientific Advisory Board: Transportation
Tuesday, July 22	18:15	3.202	Scientific Advisory Board: STHESCA 2014
Tuesday, July 22	18:15	0.302	Scientific Advisory Board: Ergonomics in Design
Tuesday, July 22	18:15	3.111	Scientific Advisory Board: Ergonomics Modeling, Usability & Special Populations
Tuesday, July 22	18:15	2.113	Scientific Advisory Board: Social & Occupational Ergonomics
Tuesday, July 22	18:15	2.114	Scientific Advisory Board: Physical Ergonomics & Human Factors
Tuesday, July 22	18:15	1.112	Scientific Advisory Board: Safety Management and Human Factors
Tuesday, July 22	18:15	1.113	Scientific Advisory Board: Human Factors and Sustainable Infrastructure
Tuesday, July 22	18:15	0.313	Scientific Advisory Board: IBM® Symposium on Human Factors, Software, and Systems Engineering



# Conference at a Glance

**Monday, July 21, 2014**

#	TITLE	ROOM	TRACK
<b>8:45 - 10:00 SIMULTANEOUS PLENARY ADDRESSES</b>			
P1	The Human Side of Service Engineering: Insights from Service-Dominant Logic R. Lusch, USA, and B. Edvardsson, Sweden	0.103	HSSE
P2	The Art of Aging and Ergonomics Survey of Age-Related Changes in the Human Performance Potential H. Strasser, Germany	0.101	PEHF
P3	The Conceptual Evolution of the Notion of Work Accidents Under Ergonomics Point of View M. Vidal, Brazil	0.307	SMHF
P4	Ergonomic Aspects of the Urban Landscape W. Bonenberg, Poland	0.313	HFSI
P5	Grade Versus Constraints Separation: Can A Socio-Technical Approach Avoid Clashes at the Road-Rail Interface M. Lenné, Australia	0.310	TRANS
P6	Measuring Odor-Evoked Emotion and Perfume Preferences for Personal Care Product Design P. Rau, China	2.114	AHFE
P7	Innovate@speed: Integrating Systems, Safety and Speed to Help Engineer a Smarter Planet B. Dalgetty and B. Amaba, USA	0.102	HFSSE
P8	Linking Design and Ergonomics through Research Projects F. Moreira da Silva, Portugal	0.304	ED
P9	Evolution of Design and Portrait of Designers S. Choi, USA	0.104	APD
P10	Human Interface Research in an Enterprise S. Fukuzumi, Japan	0.105	HAAMAHA
P11	Macroergonomics and Sustainability: Goals and Obstacles of a Project Aimed at Improving Small Communities L. Buarque de Macedo Guimaraes, Brazil	3.111	AHFE
<b>10:00-10:30 Refreshments will be provided in the foyer on the ground floor</b>			
<b>10:30-12:30</b>			
1	New Approaches in Affective and Pleasurable Design	2.113	APD
2	Human Factors Issues in Air Transportation, Aviation Safety and Risk Analysis	2.110	AVI
3	Modeling and Simulation to Support Cross Cultural Decision Making	0.101	CCDM
4	Sustainable Design I	1.112	ED/EMUSP
5	Interface Design I	1.113	ED/EMUSP
6	Human Factors in Real Life	1.111	ED/EMUSP
7	International Panel on Patient Handling Ergonomics I	3.112	HC
8	Emergency and Operating Rooms	3.111	HC
9	Designing Software and Systems for Specific User Groups	0.304	HFSSE
10	ICT-Human Condition-Educational Services - Integrating Human and Artificial Services	0.102	HSSE
11	Innovative Services Based on Open and Big Data	0.104	HSSE
12	UX as a Service (UXaaS)	0.105	HSSE
13	Design Tools and Methods	3.201	MAR
14	Human Aspects of Knowledge Based Enterprises I	3.202	MFG
15	Cognitive Ergonomics and Safety	2.114	SMHF
16	Safety Management Systems as Part of the Competitive Management Systems I	0.310	PEHF
17	Road Infrastructure, Design and Safety	0.313	RR
18	To Keep or Not to Keep the Driver in the Control Loop of Automated Vehicle?	0.307	RR
19	Interior Design I	2.115	SO

# Conference at a Glance

**Monday, July 21, 2014**

#	TITLE	ROOM	TRACK
12:30-13:30 Lunch break in the foyer on the ground floor Light lunches will be provided for all registered conference participants.			
13:30-15:30			
20	Kawaii/Kansei/Affective Value Creation	2.113	APD
21	Tools for Cross Cultural Decision Making	2.110	CCDM
22	Operational Applications of Tactile and Multimodal Research and Displays	0.101	C&N
23	Design and Human Behavior I	1.112	ED/EMUSP
24	The Role and Functions of Professional Certifications Organizations	1.113	ED/EMUSP
25	Design and Applied Anthropometry I	1.111	ED/EMUSP
26	Patient Treatment Considerations	3.112	HC
27	Service Systems Science - Methodology and Practice	3.111	HSSE
28	Applied Ergonomics in Manufacturing I	0.304	MFG
29	Physical Ergonomics and Human Interactions I	0.102	PEHF
30	Workload and Stress Assessment in Complex Systems I	0.104	PEHF
31	Workload, Fatigue, Drowsiness and Emotions in Driving	0.105	RR
32	System Design and Evaluation I	3.201	RR
33	Improving Manufacturing	3.202	S&O
34	Individual and the Society in the Conceptual Era	2.114	STHESCA
35	Ergonomics in Building and Architecture	0.310	HFSI
15:30-16:00 Refreshments will be provided in the foyer on the ground floor			
16:00-18:00			
36	Pleasurable Design for Diverse Users in Asia	2.113	APD
37	Recent Methodological Developments and Results from Psychophysiology in Ergonomics (PIE)	2.110	AMI
38	Civilization Change: Ideological, Economic, and Historical Change	0.101	CCDM
39	Trust of Emergent Signal and Task Technologies	1.112	C&N
40	Ergonomics in Fashion Industry	1.113	DHMHF
41	Ergonomics in Design of Workstations I	1.111	ED/EMUSP
42	Ergonomics and the Virtual and Digital Environment I	3.112	ED/EMUSP
43	Human Factors and Ergonomics in Safety-Critical Systems	3.111	ED/EMUSP
44	Education I	0.304	STHESCA
45	Ergonomics and New Services in Healthcare I	0.102	HC
46	Medical Device Design	0.104	HC
47	Human Factors in Systems Engineering I	0.105	HFSSE
48	New Directions in Teaching and Learning Services	3.201	HSSE
49	Human Centred Design for Services	3.202	HSSE
50	Software as a Service: Achieving Security via Usability, Trust, and Privacy for the Internet of Services	2.114	HSSE
51	Human Factors and Ergonomics in Safety I	0.310	SMHF
52	Physical Ergonomics and Ergonomic Analysis I	0.313	PEHF
53	Highly Automated Driving - Aspects of Driver Vehicle Interaction I	0.307	RR
54	Human Factors at Level Crossings	2.115	RR

# Conference at a Glance

**Tuesday, July 22, 2014**

#	TITLE	ROOM	TRACK
8:00-10:00			
55	Affective User Experience	2.113	APD
56	Human Factors Issues in Air Traffic Management I	2.110	AVI
57	Advances and Challenges in Cross-Cultural Competence in the US Military, 2001-2014 and Beyond	0.101	CCDM
58	Neuroergonomics of Human Performance	1.112	C&N
59	DHM and Work Design	1.113	DHMHF
60	Sustainable Design II	1.111	ED/EMUSP
61	Design and Human Behavior II	3.112	ED/EMUSP
62	Design and Applied Anthropometry II	3.111	ED/EMUSP
63	Interface Design II	0.304	ED/EMUSP
64	Work Stressors, Resources and Safety in Telehealth Technology and Health Care Work I	0.102	HC
65	Service Innovation in Business Networks	0.104	HSSE
66	Managing the Complexity in Transformative Service Design	0.105	HSSE
67	Cross-Cultural Decision Making in the EU	3.201	HSSE
68	Human Aspects of Knowledge Based Enterprises II	3.202	MFG
69	Safety Management Systems as Part of the Competitive Management Systems II	2.114	PEHF
70	Risk and Driving	0.310	RR
71	Driver State Detection and Simulated Driving: Drawbacks and Opportunities	0.313	RR
72	Safety Related Topics	0.307	SO
73	Neural Mechanisms of Functioning in the Conceptual Age	2.115	STHESCA
10:00-10:30 Refreshments will be provided in the foyer on the ground floor			
10:30-12:30			
74	Kansei and Emotions in Design	2.113	APD
75	Pleasurable Design on Support Technology for Elderly and Disabled	2.110	APD
76	Interaction in 3D Environments and Computerized Training Systems	0.101	CN
77	User-Centered Design I	1.112	ED/EMUSP
78	Ergonomics in the Analysis and Design of Production Systems	1.113	ED/EMUSP
79	Ergonomics in the Automotive Industry	1.111	ED/EMUSP
80	Transport Design	3.112	ED/EMUSP
81	International Panel on Patient Handling Ergonomics II	3.111	HC
82	Practice Based Innovation: Collaborate and Learn in Innovating	0.304	HSSE
83	Quality Management in Service Engineering	0.102	HSSE
84	Research on Human Behavior, Ethics and Decision Making in Smarter Service Systems	0.104	HSSE
85	Communication and Cognitive Performances	0.105	MAR
86	Ergonomics in Industrial Quality and Safety	3.201	MFG
87	Work-Physiological Approaches in Physical Ergonomics	3.202	PEHF
88	Tools and Applicative Experiences by EPM International School for WMSDs Prevention	2.114	PEHF
89	Highly Automated Driving - Aspects of Driver Vehicle Interaction II	0.310	RR
90	Human Mobility Increase as a Key Element in Designing Innovative Transportation Systems	0.313	RR
91	Macroergonomic Innovations I	0.307	SO
92	Knowledge Transfer in the Interdisciplinary Development of Products and Services	2.115	STHESCA



#	TITLE	ROOM	TRACK
12:30-13:30 Lunch break in the foyer on the ground floor Light lunches will be provided for all registered conference participants.			
13:30-15:30			
93	Behavioral and Physiological Indicators of Human Performance	2.113	CN
94	Digital Human Modeling Applications	2.110	DHMHF
95	Ergonomics in Design of Workstations II	0.101	ED/EMUSP
96	Ergonomics and the Virtual and Digital Environment II	1.112	ED/EMUSP
97	Ergonomics, Product and Work Design I	1.113	ED/EMUSP
98	Website and Network Design and Evaluation	1.111	ED/EMUSP
99	Healthcare Information Systems	3.112	HC
100	Systems Engineering for Designing and Delivering Smarter Products	3.111	HFSSE
101	The Education of Service Innovators: Bridging the Gaps Between Business and Academia	0.304	HSSE
102	Context-Related Service: Lessons in Humanisms	0.102	HSSE
103	Organizational Safety	0.104	SMHF
104	Perception and Control Issues in the Design of Advanced Driving Assistance Systems	0.105	RR
105	Transport Data and Analysis	3.201	RR
106	Ergonomics and Material Environment Design	3.202	HFSI
107	Interior Design II	2.114	SO
108	Macroergonomic Innovations II	0.310	SO
109	Ergonomic Education in the Conceptual Age and Ageing Population	0.313	STHESCA
15:30-16:00 Refreshments will be provided in the foyer on the ground floor			
16:00-18:00			
110	Methods for Emotional Design	2.113	APD
111	Design Methods and Techniques	2.110	ED/EMUSP
112	Ergonomic Product Design	0.101	ED/EMUSP
113	Ergonomics, Cognition and Aviation	1.112	ED/EMUSP
114	Seating Ergonomics and Body Posture	1.113	ED/EMUSP
115	Decision Support in Healthcare Environments	1.111	HC
116	Service Innovation and Governance: Reframing the Concept of Service Innovation	3.112	HSSE
117	Service Fascination	3.111	HSSE
118	Human Diversity	0.304	MAR
119	Ergonomic Design of Future Production Systems I	0.102	MFG
120	Safety Culture and Safety Indicators	0.104	SMHF
121	Physical Hazard and Prevention I	0.105	PEHF
122	Physical Ergonomics and Human Interactions II	3.201	PEHF
123	Systems Thinking in Road and Rail Transport	3.202	RR
124	Electric Vehicles – New Challenges for Human Machine Interaction	2.114	RR
125	Safety and Health Related Topics	0.310	SO
126	Model Predictive Control and Military Planning for the Human Domain: Possibilities and Pitfalls	0.313	CCDM

#	TITLE	ROOM	TRACK
8:00-10:00			
127	Usability in IT devices	2.113	APD
128	Modeling of Societies in Conflict	2.110	CCDM
129	Sustainable Design III	0.101	ED/EMUSP
130	Ergonomics and the Virtual and Digital Environment III	1.112	ED/EMUSP
131	Ergonomics, Product and Work Design II	1.113	ED/EMUSP
132	Human Factors and Ergonomics in Information Design and Safety-Critical Systems	1.111	ED/EMUSP
133	Work Stressors, Resources and Safety in Telehealth Technology and Health Care Work II	3.112	HC
134	Human Factors in Systems Engineering II	3.111	HFSSE
135	Innovation in Healthcare Intelligence and Smart Communities: Panel Discussion	0.304	HSSE
136	Ergonomic Design of Future Production Systems II	0.102	MFG
137	Risk Management and Accident Analysis	0.104	SMHF
138	Physical Hazard and Prevention II	0.105	PEHF
139	Physical Ergonomics and Ergonomic Analysis II	3.201	PEHF
140	System Design and Evaluation II	3.202	RR
141	Driver Distraction and Inattention	2.114	RR
142	Psychosocial Factors, Communication and Teamwork I	0.310	SO
143	Health and Risk Assessment	0.313	SO
144	Ergonomics in Urban Design	0.307	HFSI
145	New Methods of Investigation of Work Load	2.115	STHESCA
10:00-10:30 Refreshments will be provided in the foyer on the ground floor			
10:30-12:30			
146	User Centred Design and Emotion	2.113	APD
147	Human Factors Issues in Air Traffic Management II	2.110	AVI
148	Cognitive Assessment: Readiness and Workload	0.101	CN
149	Ergonomics in Design of Products	1.112	ED/EMUSP
150	Ergonomics in the Design of Products and Services	1.113	ED/EMUSP
151	Ergonomics and Usability Evaluation	1.111	ED/EMUSP
152	Virtual Reality in Ergonomics	3.112	ED/EMUSP
153	Design for Patient Safety	3.111	HC
154	Training and Work Simulations	0.304	MAR
155	Ergonomics Qualifications and Safety Management	0.102	SMHF
156	Workload and Stress Assessment in Complex Systems II	0.104	PEHF
157	Physical Ergonomics and Human Interactions III	0.105	PEHF
158	Eco-Driving, Public Transport and Pedestrians	3.201	RR
159	Human Factors in Rail Systems	3.202	RR
160	Ergonomics in Public Building Design	2.114	HFSI
161	Hand-Arm Topics and Workstation Design	0.310	SO
163	Managing the Changes	0.313	STHESCA

# Conference at a Glance

**Wednesday, July 23, 2014**

#	TITLE	ROOM	TRACK
12:30-13:30 Lunch break in the foyer on the ground floor Light lunches will be provided for all registered conference participants.			
13:30-15:30			
164	Cognition and Emotion in Serious Gaming Design	2.113	APD
165	Building Models for Decision Making in Complex Cross-Cultural Domains	2.110	CCDM
166	Digital Human Modeling Applications and Human Aspects of Reliability and Risk Assessment	0.101	DHMHF
167	Sustainable Design IV	1.112	ED/EMUSP
168	Ergonomics, Accessibility and Built Environment	1.113	ED/EMUSP
169	Ergonomics and Sustainability	1.111	ED/EMUSP
170	Ergonomics and Design for Elderly People	3.112	ED/EMUSP
171	Ergonomics and New Services in Healthcare II	3.111	HC
172	Systems Engineering Applications	0.304	HFSSE
173	System Innovations: A New Perspective in Servitization	0.102	HSSE
174	Human Factors and Ergonomics in Safety II	0.104	SMHF
175	Digital Human Modeling with Muscle Fatigue Modeling	0.105	PEHF
176	Ergonomic Applications	3.201	PEHF
177	Accident Analysis and Prevention	3.202	RR
178	Individual Differences in Driving	2.114	RR
179	Experience and Performance	0.310	SO
180	Macroergonomic Innovations III	0.313	SO
181	Smart Architecture in Sustainable Design	0.307	HFSI
182	Individual Engagement in Organizational Context - Theoretical and Practical Assumptions	2.115	STHESCA
15:30-16:00 Refreshments will be provided in the foyer on the ground floor			
16:00-18:00			
183	Emotional Design and Product Longevity	2.113	APD
184	Human Factors Issues in Air Traffic Management IV	2.110	AM
185	User-Centered Design II	0.101	CN
186	Ergonomics, Assistive Technology, Disability and Obesity	1.112	ED/EMUSP
187	Ergonomics for Healthcare and Childcare	1.113	ED/EMUSP
188	Ergonomics Investment and Safety	1.111	ED/EMUSP
189	Developing Talent (Adaptive Innovators) for the Service Science Enterprise	3.112	HSSE
190	Applied Ergonomics in Manufacturing II	3.111	MFG
191	Physical Ergonomics and MSD	0.304	PEHF
192	Physical Ergonomics and Ergonomic Analysis III	0.102	PEHF
193	Human Factors in Rail and RLX	0.104	RR
194	System Design and Evaluation III	0.105	RR
195	Naturalistic and Simulator HF Driving Communities	3.201	RR
196	Psychosocial Factors, Communication and Teamwork II	2.114	SO
197	Ergonomics for Children, Disabled and Elderly	0.310	HFSI
198	Education II	0.313	STHESCA
	<b>18:15-18:45 AHFE 2014 Closing Session</b>	<b>0.103</b>	

# Detailed Technical Program

**Monday, July 21, 2014**

#	TITLE	ROOM	TRACK
<b>8:45 - 10:00 SIMULTANEOUS PLENARY ADDRESSES</b>			
P1	The Human Side of Service Engineering: Insights from Service-Dominant Logic R. Lusch, USA, and B. Edvardsson, Sweden	0.103	HSSE
P2	The Art of Aging and Ergonomics Survey of Age-Related Changes in the Human Performance Potential H. Strasser, Germany	0.101	PEHF
P3	The Conceptual Evolution of the Notion of Work Accidents Under Ergonomics Point of View M. Vidal, Brazil	0.307	SMHF
P4	Ergonomic Aspects of the Urban Landscape W. Bonenberg, Poland	0.313	HFSI
P5	Grade Versus Constraints Separation: Can A Socio-Technical Approach Avoid Clashes at the Road-Rail Interface M. Lenné, Australia	0.310	TRANS
P6	Measuring Odor-Evoked Emotion and Perfume Preferences for Personal Care Product Design P. Rau, China	2.114	AHFE
P7	Innovate@speed: Integrating Systems, Safety and Speed to Help Engineer a Smarter Planet B. Dalgetty and B. Amaba, USA	0.102	HFSSE
P8	Linking Design and Ergonomics through Research Projects F. Moreira da Silva, Portugal	0.304	ED
P9	Evolution of Design and Portrait of Designers S. Choi, USA	0.104	APD
P10	Human Interface Research in an Enterprise S. Fukuzumi, Japan	0.105	HAAMAHA
P11	Macroergonomics and Sustainability: Goals and Obstacles of a Project Aimed at Improving Small Communities L. Buarque de Macedo Guimaraes, Brazil	3.111	AHFE
<b>10:00-10:30 Refreshments will be provided in the foyer on the ground floor</b>			

1	<b>New Approaches in Affective and Pleasurable Design</b> Co-Chairs: E. Clarke and C. Baldwin, USA
10:30-12:30 Room 2.113 Track APD	<p><b>Transforming physiological data from a generic sensor to a specialised one for affect detection</b>            P. Moratori, C. Wagner, R. Houghton, V. Shipp, J. Johal, P. Welch and S. Ali, UK</p> <p><b>Imitated mind uploading by using electroencephalography</b>            R. Horie and K. Kaneko, Japan</p> <p><b>Restorative effects of music and nature sounds</b>            E. Clarke and C. Baldwin, USA</p> <p><b>Someone to talk to</b>            K. Koroveshevski and S. Gievska, Macedonia</p> <p><b>Exploring the innovation application of web camera based on business models - Taking parent-baby communication as an example</b>            M. -H. Lee and C. -J. Chou, Taiwan</p> <p><b>Effect of age on superimposition of head-up display</b>            J. Kim, H. Oh, H. Hwangbo and Y. G. Ji, Korea</p>
2	<b>Human Factors Issues in Air Transportation, Aviation Safety and Risk Analysis</b> Co-Chairs: G. Walker and A. Majumdar, UK
10:30-12:30 Room 2.110 Track AVI	<p><b>Extracting cultural factors from helicopter accident reports using content analysis</b>            H. Omole, G. Walker and G. Netto, UK</p> <p><b>A qualitative exploration of critical incidents: Expanding Neisser's Perceptual Cycle Model</b>            K. Plant and N. Stanton, UK</p> <p><b>Human factors engineering at the transportation security administration</b>            B. Kudrick and F. Greene, USA</p> <p><b>Investigating time pressure for the empirical risk analysis of sociotechnical systems in ATM</b>            L. Meyer, K. Gaunitz and H. Fricke, Germany</p> <p><b>Biodynamic adverse rotorcraft-pilot coupling</b>            G. Quaranta, P. Masarati, M. Lanz, M. Marforio and V. Muscarello, Italy</p> <p><b>Aviation safety: An initial exploration of the feasibility of using language engineering technologies for reducing pilot-air traffic control miscommunications</b>            B. Bajaj and A. Majumdar, UK</p> <p><b>Airspace infringements in European airspace</b>            E. Psyllou, A. Majumdar and W. Ochieng, UK</p>
3	<b>Modeling and Simulation to Support Cross Cultural Decision Making</b> Co-Chairs: A. Murata, Japan, and B. Szymanski and D. Ungvarsky, USA
10:30-12:30 Room 0.101 Track CCDM	<p><b>Basic study on prevention of human error - Anchoring bias in relationship between objective and subjective probability</b>            A. Murata and M. Moriwaka, Japan</p> <p><b>Basic study on prevention of human error - Debiasing method of cognitive biases in decision making</b>            A. Murata, T. Nakamura and S. Kubo, Japan</p> <p><b>Basic study on prevention of human error - How cognitive biases distort decision making and lead to crucial accidents</b>            A. Murara and T. Nakamura, Japan</p> <p><b>Assessing fluid rationality and its relations to cognitive styles</b>            V. Čavojská and R. Hanák, Slovakia</p> <p><b>Selecting the field hospital place for disasters: A case study in Istanbul</b>            N. Vafaei, Turkey</p> <p><b>Analytical capability to better understand and anticipate extremist shifts within populations in failing states</b>            M. Bernard and A. Bier, USA</p> <p><b>Soldier narrative analysis as part of a rapid fielding program</b>            M. Jaye, P. Driscoll, D. Choe, V. Diaz and A. Keller, USA</p>

4	<b>Sustainable Design I</b> Chair: F. Moreira da Silva, Portugal
10:30-12:30 Track ED/EMUSP Room 1.112	<p>ColorErg - Color ergonomics in fashion design F. Moreira da Silva, Portugal</p> <p>Drawing accessibilities - Classroom introductory module to UX design J. Silva and F. Moreira da Silva, Portugal</p> <p>Fashion design and garment performance: Human factors in fashion design projects G. Montagna and C. Morais, Portugal</p> <p>Dressing autonomy for frozen shoulder users: Inclusive fashion design principles L. Schiehl, F. Moreira da Silva and I. Simões, Brazil</p> <p>Wayshowing through Urban Furniture: An ergonomic approach to a color planning methodology M. Gamito and F. Moreira da Silva, Portugal</p> <p>Sustainable design through the case study Daciano da Costa A. Moreira da Silva, Portugal</p> <p>Wayfinding design: An ergonomic approach to signage systems J. Neves and F. Moreira da Silva, Portugal</p>
5	<b>Interface Design I</b> Chair: C. Paschoarelli, Brazil
10:30-12:30 Track ED/EMUSP Room 1.113	<p>Material and ergonomics in chairs: Study focusing on identity of the materials and perception of textures G. Almeida, Jr., R. Dia and J. Câmara, Brazil</p> <p>Usability and user experience (UX) in Brazil: Growth through the perspective of standards and professional societies V. Macedo and M. Okimoto, Brazil</p> <p>Hand tools: A study of the perception of domestic users and woodwork professionals F. Falcão, L. Pinheiro, G. da Silva and L. Paschoarelli, Brazil</p> <p>The influence of symbolic function in the perception and in the biomechanical effort: A case study with Juicy Salif J. Lanutti and L. Paschoarelli, Brazil</p> <p>Subjective of effort in manual actions (torque and pulling strength) on different interfaces B. Razza, L. Paschoarelli, C. Lucio, J. Ulson and D. Silva, Brazil</p> <p>A discussion of the terms of methodology, method and technique on the usability interfaces factor: The case in Brazil R. Diniz, A. Demaison, L. Campos and L. Paschoarelli, Brazil</p> <p>Evaluation of ecological interface design for supporting cognitive activity of nuclear plant operators A. Anokhin and A. Ivkin, Russian Federation</p>
6	<b>Human Factors in Real Life</b> Chair: E. Filgueiras, Portugal
10:30-12:30 Track ED/EMUSP Room 1.111	<p>Human body-sleep system interaction in residence for university students: Evaluation of interaction patterns using a system to capture video and software with observation of postural behaviors during sleep G. Desouzart, E. Filgueiras, F. Melo and R. Matos, Portugal</p> <p>Comparative analysis between two distinct realities concerning the transport of school material R. Dagge and E. Filgueiras, Portugal</p> <p>Understanding the interaction behavior of architecture and design students with portable computers in the classroom L. Lavin and E. Filgueiras, Portugal</p> <p>Antique furniture, modern student's needs: Architecture and design students over the gap between the technological developments and school furniture A. Gomes, E. Filgueiras and L. Lavin, Portugal</p> <p>Ergonomic studies in Brazil and Portugal in the operators of electric power control centers M. Melo and L. Bueno, Brazil and F. Rebelo, Portugal</p> <p>Heuristic Evaluation for Serious Games (HESG): Using HESG for designing and evaluating serious games N. Jerzak, France/Portugal, and F. Rebelo, Portugal</p>



<b>7</b>	<b>International Panel on Patient Handling Ergonomics I</b> Co-Chairs: S. Hignett and M. Fray, UK
<b>10:30-12:30</b> <b>Room 3.112</b> <b>Track HC</b>	<p><b>Standards and cross-organization of work: Two useful tools for a prevention of manual handling of patients in the healthcare sector</b> J. -P. Zana, France</p> <p><b>Assessment of risk factors of low back pain among hospital nurses</b> C. Sopajareeya, Thailand</p> <p><b>Prevention of pressure ulcers: Exploring the influence of nurses, equipment and working techniques</b> H. Knibbe, N. Knibbe and A. Klaassen, The Netherlands</p> <p><b>Pressure ulcer prevention: Keep it safe, keep it simple!</b> L. Phillips, UK</p> <p><b>A safety risk assessment tool for building design: Focus on patient care ergonomics</b> M. Matz, USA</p> <p><b>An ergonomics study of patient flow and waiting room layout design for an emergency medicine department</b> B. Das and B. Das, Canada</p> <p><b>A detailed analysis of factors associated with performance in patient handling interventions (TROPHI)</b> M. Fray and S. Hignett, UK</p>
<b>8</b>	<b>Emergency and Operating Rooms</b> Chair: R. Blocker, USA
<b>10:30-12:30</b> <b>Room 3.111</b> <b>Track HC</b>	<p><b>Examining the impacts of surgical team debriefings on teamwork</b> R. Blocker, E. Hildebrand and S. Hallbeck, USA</p> <p><b>Investigating operating room (OR) traffic during orthopedic surgery</b> R. Blocker, M. Severson and S. Hallbeck, USA</p> <p><b>Response to the emergency in hospital facilities</b> M. Corticeiro Neves and P. Gaspar, Portugal</p> <p><b>Human factors view of the assistant during laparoscopic procedures: A pilot study</b> K. Karlovic, S. Pfeffer, T. Maier, K.-D. Siever and R. Rothmund, Germany</p> <p><b>Analysis of user-induced risks in the neurosurgical OR</b> J. Dell'Anna, A. Janss, M. Blaar, A. Hoellig, H. Clusmann and K. Radermacher, Germany</p> <p><b>Emergency room process and patient characterization for a public hospital</b> R. Po, T. Pech and J. Krems, Philippines/Germany</p>
<b>9</b>	<b>Designing Software and Systems for Specific User Groups</b> Co-Chairs: C. Schlick and N. Jochems, Germany
<b>10:30-12:30</b> <b>Room 0.304</b> <b>Track HFSSE</b>	<p><b>Usability of document management systems considering users' level of experience: A survey</b> A. Heinicke, C. Bröhl, J. Bützler and C. Schlick, Germany</p> <p><b>Layout structures of network diagrams in project management software: An age-differentiated empirical investigation concerning symmetry and space</b> J. Bützler, R. Brömme, C. Bröhl, N. Jochems and C. Schlick, Germany</p> <p><b>Integration of information and communication technology in behavior therapy for children with Attention Deficit Hyperactivity Disorder (ADHD)</b> A. Mertens, Germany/Ireland, A. Callahan, Ireland, K. Doherty, Ireland, S.-J. Gerber, Ireland, C. Schlick, Germany, and G. Doherty, Ireland</p> <p><b>Levels of abstraction for user modeling in the Usability Engineering Repository User</b> A. Roenspieß, M. Paul, T. Mentler and M. Herczeg, Germany</p> <p><b>Mobility requirements for the use of carpooling among different user groups</b> W. Wilkowska, R. Farrokhkhavi, M. Ziefle and D. Vallée, Germany</p> <p><b>The role of user factors on the ease of using graphical notation systems</b> M. Ziefle and K. Arning, Germany</p>

<b>10</b>	<b>ICT-Human Condition-Educational Services - Integrating Human and Artificial Services</b> Co-Chairs: S. Dylak, Poland, and P. Rudzajs, Latvia
10:30-12:30 Track HSSE Room 0.102	<p><b>Attitudes and use of mobile phones in tweens</b> J. Fowler and J. Noyes, UK</p> <p><b>Students in the evolving educational environment</b> C. Dziuban and E. Dziuban, USA</p> <p><b>Learning off-line in online instruction</b> L. Cifuentes, USA</p> <p><b>ICT skills in the structure of the standards of professional competencies</b> S. Kwiatkowski, Poland</p> <p><b>Variability handling in multi-mode service composition</b> P. Rudzajs and M. Kirikova, Latvia</p> <p><b>A semi-automatic approach for the integration of structural Karlstad Enterprise modeling schemata</b> P. Bellström, Sweden</p> <p><b>Model synchronization in socio technical service systems</b> M. Thieme, L.-P. Meyer, K. Meyer and C. Zinke, Germany</p>
<b>11</b>	<b>Innovative Services Based on Open and Big Data</b> Co-Chairs: A. Wróblewska, Poland, and A. Amer, USA
10:30-12:30 Track HSSE Room 0.104	<p><b>ICT services for open and citizen science</b> M. Morzy, Poland</p> <p><b>Data analysis on large volume medical records</b> P. Wróblewski, Poland</p> <p><b>Dynamic marketplace in e-commerce</b> B. Twardowski, Poland</p> <p><b>Know and why</b> D. Pease, USA</p> <p><b>How to leverage our combined wealth of genomic big data and apply it to clinical treatment of cancer</b> A. Hospodor, USA</p>
<b>12</b>	<b>UX as a Service (UXaaS)</b> Co-Chairs: R. Lin and T. -L. Chin, Taiwan
10:30-12:30 Track HSSE Room 0.105	<p><b>User experience as service at social networking</b> H. -G. Chen and Y. -Q. Zhu, Taiwan</p> <p><b>UX as a Service</b> R. Lin, T.-L. Chen, H.-G. Chen and S. -C. Chou, Taiwan</p> <p><b>Social influence tagging as a service for brand marketing</b> J. -G. Pan and W. -T. Hsieh, Taiwan</p> <p><b>Exploring the servicelization of mobile user interface evaluation</b> S. -C. Chou, T.-M. Tsai and Y. Lin, Taiwan</p> <p><b>Shopping experience as a service for on-line group purchasing</b> T. -L. Chin, Y.-S. Tsai and R. Lin, Taiwan</p> <p><b>A journey recommender system using crowd attention monitoring for facilitating a collaborative visiting experience</b> R. Chen, T. Ho and R. Lin, USA</p>

<b>13</b>	<b>Design Tools and Methods</b> Chair: A. Ratti, Italy
<b>Track MAR</b>	<b>The visual pleasantness in yacht design: Natural lighting, views and interior colors</b> M. Di Nicolantonio, G. Di Bucchianico and S. Camplone, Italy
<b>Room 3.201</b>	<b>Assessing the fitness of information supply and demand during user interface design</b> C. Denker, F. Fortmann, M. Ostendorp and A. Hahn, Germany
<b>10:30-12:30</b>	<b>Ergonomic and operational aspects</b> M. Morozzo della Rocca, Italy
	<b>Ergonomics in the design of naval vessels</b> M. Zignego, Italy
	<b>Sailing as stroke rehabilitation strategy</b> M. Romero, G. Andreoni, S. Pardi, A. Ratti, B. Imamogullari and F. Molteni, Italy
	<b>Chemical hazard in FRP pleasure boats' manufacturing</b> R. Frassine, C. Fusaro and A. Ratti, Italy
<b>14</b>	<b>Human Aspects of Knowledge Based Enterprises I</b> Chair: E. Pawlowski, Poland
<b>Track MFG</b>	<b>The role of ergonomics in the knowledge based enterprises</b> K. Hankiewicz, Poland
<b>Room 3.202</b>	<b>Designing and producing services in knowledge enterprises</b> J. Kantola and H. Vanharanta, Finland, and W. Karwowski, USA
<b>10:30-12:30</b>	<b>The changes of information technology structure in condition of adaptation the enterprises' management systems into knowledge based economy requirements</b> J. Kalkowska, Poland
	<b>Human aspect and risk in quality management systems</b> P. Królas, Poland
	<b>Size of an enterprise and organizational innovations</b> E. Pawlowski, Poland
	<b>The market conditions based taxonomy of modern manufacturing practises</b> K. Pawłowski, Poland
<b>15</b>	<b>Cognitive Ergonomics and Safety</b> Chair: G. Szabó, Hungary
<b>Track SMHF</b>	<b>Evaluating firefighter crawling performance in a controlled environment</b> J. Davis, R. Tang, R. Sesek and S. Gallagher, USA
<b>Room 2.114</b>	<b>Electric system control room operators: Cognitive task analysis and human error</b> R. Goncalves, R. Maciel, L. Maia, A. Nascimento and K. Canuto, Brazil
<b>10:30-12:30</b>	<b>Biofeedback assistant to improve control room operators reliability</b> G. Szabó and Á. Jóvér, Hungary
	<b>Virtual environments for studies of nuclear and radiological emergencies</b> D. Mól Machado, A. Cotelli, D. Chelles, A. Mól, P. Carvalho and M. Vidal, Brazil
	<b>Creating accessibility to web contents for colorblind people</b> M. Ribeiro and A. Gomes, Portugal
	<b>Development of interactive educational games about human error for railway personnel</b> M. Inaba, R. Nakamura, T. Imaizumi, O. Onodera, Y. Takeda, K. Kusukami and S. Haga, Japan
	<b>Upper limb repetitive stress injuries in Singapore: A descriptive study</b> Z. Yang and T. Cheung, Singapore

<b>16</b>	<b>Safety Management Systems as Part of the Competitive Management Systems I</b> Co-Chairs: J. Sinay and H. Pacaiova, Slovakia
<b>10:30-12:30</b> <b>Room 0.310</b> <b>Track PEHF</b>	<p>The interrelationship between quality production and safety in factories S. Markulik, L. Kamenický, J. Namešanská and A. Nagyová, Slovakia</p> <p>Integrated security or selective risk assessment? J. Sinay, A. Tompos, S. Vargova and F. Kalafut, Slovakia</p> <p>Influence of physical properties of concrete on operator's exposure to noise and hand-transmitted vibration S. Fiserova, Czech Republic</p> <p>System of lifelong learning in occupational safety and health in the Slovak Republic T. Kozik, I. Turekova, R. Bulla and T. Bagalova, Slovakia</p> <p>Workplace lighting as an element influencing the working process I. Turekova, T. Kozik, T. Bagalova, and J. Neovesky, Slovakia</p> <p>The role of human factor in the transport of hazardous materials S. Bęczkowska, I. Grabarek and W. Choromanski, Poland</p>
<b>17</b>	<b>Road Infrastructure, Design and Safety</b> Chair: M. Lenné, Australia
<b>10:30-12:30</b> <b>Room 0.313</b> <b>Track RR</b>	<p>Safety concerns regarding merging in tunnels - A simulator study R. Ceci, Sweden, K. Young, Australia, C. Patten, Sweden and M. Lenné, Australia</p> <p>A simulator evaluation of driver responses to dynamic warning signs at rural intersections A. Stephens, E. Mitsopoulos-Rubens, N. Candappa, M. Lenné and V. Beanland, Australia</p> <p>A design induced war? Examining the influence of road design on interactions between drivers and two wheeled road users P. Salmon, N. Goode, M. Van Mulken, M. Thomas, B. Scott-Parker, L. Singh-Peterson, M. Lenné, G. Walker and N. Stanton, Australia/UK</p> <p>Driver behaviour at roadworks G. Walker and M. Calvert, UK</p> <p>Development and evaluation of a rural intersection active warning system H. Mackie, C. Brodie, K. Holst, F. Tate and R. Scott, New Zealand</p> <p>Redesigning existing urban streets to optimize multiple outcomes H. Mackie, New Zealand</p> <p>An investigation of motorist behavior in Taiwan C. -Y. Huang, Taiwan</p>
<b>18</b>	<b>To Keep or Not to Keep the Driver in the Control Loop of Automated Vehicle?</b> Co-Chairs: F. Mars, France, and D. Abbink, The Netherlands
<b>10:30-12:30</b> <b>Room 0.307</b> <b>Track RR</b>	<p>Driver visual attention during highly automated driving: Re-engaging drivers back into the loop using an eye-tracker N. Merat, H. Jamson, F. Lai and O. Carsten, UK</p> <p>Transitions of control in a collision avoidance situation: A test-track study evaluating automatic steering interventions M. Dziennus, M. Heesen, A. Schieben, J. Kelsch, T. Hesse and M. Baumann, Germany</p> <p>Steering control and trajectory planning E. Lehtonen, Finland</p> <p>A framework for driver-vehicle cooperation for highly automated intelligent vehicles M. Baumann, F. Tango, J. Kelsch and M. Dziennus, Germany</p> <p>Assessment of the driver's visual environment at intersections based on a 3D CG simulation approach M. Midori, Japan</p> <p>An application of the driver behaviour questionnaire in a large Australian organisational fleet setting: Can it predict crashes and demerit point loss? D. Wishart, J. Freeman, J. Davey, B. Rowland and P. Barraclough, Australia</p> <p>Real or imagined? A study exploring the existence of common method variance effects in road safety research P. Barraclough, A. af Wahlberg, J. Freeman, J. Davey and B. Watson, Australia</p>

19	<b>Interior Design I</b> Chair: P. Vink, The Netherlands
10:30-12:30 Track SO Room 2.115	<p><b>Environmental comfort design considerations for future control room interiors</b> C. Bazley and P. Vink, The Netherlands</p> <p><b>The impact of workplace design on knowledge sharing</b> J. P. Kastelein, The Netherlands</p> <p><b>Personalisation of the non-owned desk office interior by projection</b> T. Tackenberg and P. Vink, The Netherlands</p> <p><b>Interior environments for different ages</b> P. Roelofsen, The Netherlands</p> <p><b>The future aircraft interior design inspired by crowd well-being</b> Y. Wang, J. Li and P. Vink, The Netherlands</p> <p><b>The vitalizing office workstation: Biomechanical, physiological, subjective and performance effects</b> R. Ellegast, J. Botter, and E. -M. Burford, Germany, R. Konemann, S. Hiemstra-van Mastrigt and D. Commissaris, The Netherlands</p> <p><b>Comfortable rear seat postures preferred by car passengers</b> U. Kilincsoy, A. Wagner, K. Bengler, H. Bubb and P. Vink, Germany/The Netherlands</p>
12:30-13:30 Lunch break in the foyer on the ground floor Light lunches will be provided for all registered conference participants.	
20	<b>Kawaii/Kansei/Affective Value Creation</b> Chair: M. Ohkura, Japan
13:30-15:30 Track APD Room 2.113	<p><b>Evaluation of kawaii size by measuring ECG</b> M. Ohkura and Y. Yamasaki, Japan</p> <p><b>Physiological responses caused by kawaii feeling in watching photos</b> M. Yanagi, Y. Yamasaki, Y. Yamariku, T. Takashina, Y. Hirayama, R. Horie and M. Ohkura, Japan</p> <p><b>The role of the designer in the affective design process: The principle of accordance</b> S. Camere and M. Bordegoni, Italy</p> <p><b>Measurement magic to deliver hair beauty</b> Y. Nakao and E. Kato, Singapore</p> <p><b>Emotion and interface design</b> D. Lockner and N. Bonnardel, France</p> <p><b>Description of subjective impression for the service experience</b> M. Kurosu and A. Hashizume, Japan</p>
21	<b>Tools for Cross Cultural Decision Making</b> Co-Chairs: R. Hanak and H. C. Hsieh
13:30-15:30 Track CCDM Room 2.110	<p><b>Are deliberative people more consistent in decision making?</b> R. Hanak, Slovakia</p> <p><b>Measuring the effects of cultures on website use</b> H. C. Hsieh, Taiwan</p> <p><b>Comparing decisions in economic games across cultures</b> E. Nouri, USA</p> <p><b>Authorship analysis of Jihadi writing through stylometric and psychological features</b> J. Carlson Sikos, P. David, N. Habash and R. Faraj, USA</p> <p><b>Meaning making regarding threat narrative based on discourse analysis</b> L. Fenstermacher, L. Kuznar, M. Yager and S. Shellman, USA</p> <p><b>Semantic enrichment and reasoning for mobile data collection of socio-cultural data</b> A. Caglayan, L. Cassani, T. Clark, J. Alavedra, V. Bharadwaj, N. Lee and J. Parkes, USA</p>

22	<b>Operational Applications of Tactile and Multimodal Research and Displays</b> Co-Chairs: B. Lawson, A. Rupert and R. Cholewiak, USA
Track CN  Room 0.101  13:30-15:30	<p>Tactile displays for cueing self-motion and looming: What would Gibson think? B. Lawson, USA</p> <p>Tactile displays: From the cockpit to the clinic B. McGrath, Australia, and A. Rupert, USA</p> <p>Tactile displays for soldier systems: Progress and issues L. Elliott, B. Mortimer and A. Skinner, USA</p> <p>Effectiveness of vibrotactile and spatial audio directional cues for USAF pararescue jumpers (PJs) J. Brill and V. Scerra, USA</p> <p>Do you feel... like I do? Individual differences and military cross-modal displays R. Cholewiak, USA</p> <p>Fingertip haptic feedback on touch screens H. Tan, USA</p>
23	<b>Design and Human Behavior I</b> Chair: E. Duarte, Portugal
Track ED/EMUSP  Room 1.112  13:30-15:30	<p>The importance of a sensory-motor wayfinding system for promoting autonomy and mobility on people with low vision condition M. Aboim Borges and F. Moreira da Silva, Portugal</p> <p>The analysis of the floor-sitting behaviour within the context of ergonomics science elements for the development of the floor-sitting furniture design N. Sani and Y. Saiful, Malaysia</p> <p>Development of pictograms depicting the five moments of hands hygiene for healthcare workers: A user-centered design approach R. Ferreira, E. Duarte, C. Rosa, P. Noriega, F. Rebelo and E. Noriega, Portugal</p>
24	<b>The Role and Functions of Professional Certifications Organizations</b> Co-Chairs: S. Fukuzumi, Japan, and J. Gomes, Brazil
Track ED/EMUSP  Room 1.113  13:30-15:30	<p>Certification of HCD Professionals in Japan M. Kurosu, S. Hayakawa, S. Mizobuchi, D. Davis and M. Ando, Japan</p> <p>Activities of Certified Professional Ergonomist of Japan S. Fukuzumi and R. Yoshitake, Japan</p> <p>Certified Professional for usability and user experience: Foundation Level (CPUX-F) - An approach for an internationally unified certification scheme for usability professionals T. Geis, Germany</p> <p>Education and professional development of ergonomists in Russia A. Anokhin, I. Gorodetskiy, V. Lvov and P. Paderno, Russia</p> <p>Brazilian certification process: Some historical aspects, challenges, and perspectives J. Gomes and P. Oliveira, Brazil</p> <p>Ergonomics certification in the United States I. Noy and C. Stuart-Buttle, USA</p> <p>Certification of ergonomics with IDCs - A South African Perspective A. Todd, South Africa</p>



<b>25</b>	<b>Design and Applied Anthropometry I</b> Chair: P. Arezes, Portugal
<b>13:30-15:30</b> <b>Room 1.111</b> <b>Track ED/EMUSP</b>	<p><b>Applied anthropometrics in school furniture design: Which criteria should be used to standardization?</b>  I. Castellucci, P. Arezes and J. Molenbroek, Chile/Portugal/Chile</p> <p><b>Analysis of the mismatch between school furniture and children</b>  M. Gonçalves and P. Arezes, Portugal</p> <p><b>Hand anthropometry and its application to design</b>  M. Umami, P. Arezes and A. Sampaio, Indonesia/Portugal</p> <p><b>University classrooms and students' compatibility</b>  L. Sousa, M. Pinho, P. Arezes and J. Góis, Portugal</p> <p><b>Measurement and research on foot size of juveniles in Shanghai</b>  X. Zhou and S. Hu, China</p> <p><b>Virtual fitting based on 3D human body measurement software research and application</b>  S. Hu and X. Zhou, China</p>
<b>26</b>	<b>Patient Treatment Considerations</b> Chair: M. Coelho, Portugal
<b>13:30-15:30</b> <b>Room 3.112</b> <b>Track HC</b>	<p><b>Efficacy verification of recreational picture colouring for elderly nursing home patients</b>  S. Kawabata and N. Kuwahara, Japan</p> <p><b>Using game-play metrics to analyze user experience of playing health-promoted somatosensory video game</b>  T. -L. Sun, T.-M. Hung, C.-H. Huang, C.-L. Lai and C. Pei, Taiwan</p> <p><b>A study of medical garment design for puerpera based on ergonomic theory</b>  Z. Lan and X. Hu, P. R. China</p> <p><b>Organizational aspects influencing adherence to worksite exercises at hospitals</b>  F. Foltran, R. Moreira and H. Coury, Brazil</p> <p><b>Changes in electroencephalography signals during massage</b>  H. Yuminaga, K. Yamada, M. Ogiri, N. Kida, A. Goto and H. Hamada, Japan</p> <p><b>The investigation of acoustical environments in elderly mental hospital</b>  W. Lin and H. Lin, Taiwan</p>
<b>27</b>	<b>Service Systems Science - Methodology and Practice</b> Co-Chairs: H. Deguchi and K. Kijima, Japan
<b>13:30-15:30</b> <b>Room 3.111</b> <b>Track HSSE</b>	<p><b>Public-private innovation networks in sustainable services – A systemic approach to social innovation</b>  S. Ruutu, F. Gallouj, K. Hyytinen and M. Toivonen, Finland</p> <p><b>Incubating service systems thinking: New frames for collaborating on a pattern language for service systems</b>  D. Ing, Canada</p> <p><b>Value propositions in service platforms</b>  T. Rintamaki, L. Mitronen and K. Kijima, Finland/Japan</p> <p><b>Evaluating socio-economic impacts of traumatic brain injury treatment policies by dynamic simulation</b>  T. Jokinen, Finland</p> <p><b>A participatory simulation framework for social service design</b>  T. Terano, Japan</p> <p><b>Service chain and POE data management</b>  H. Deguchi, Japan</p>

28	<b>Applied Ergonomics in Manufacturing I</b> Chair: A. Matias, Philippines
Track MFG  Room 0.304  13:30-15:30	<p>A comparison of the usability of a locally-produced and commercially-acquired telemedicine device for Filipino health workers L. Grepo and B. Custodio, Philippines</p> <p>Designing an arm support model to minimize UECTD risk among Filipino electronic technicians using QFD, KANO model, TRIZ and anthropometry A. Indardaya and A. Matias, Philippines</p> <p>Development and assessment of work systems for elder employees in industrial manufacturing N. Feller and U. Müller, Germany</p> <p>Yet another platform? Motivational factors for using online communities in business contexts A. -K. Löcker, D. Eraßme, E.-M. Jakobs, A. K. Schaar, A. Calero Valdez and M. Ziefle, Germany</p> <p>Analysis of shift work system influence on visual inspection effectiveness A. Kujawińska, K. Vogt and A. Hamrol, Poland</p>
29	<b>Physical Ergonomics and Human Interactions I</b> Chair: A Hedge, USA
Track PEHF  Room 0.102  13:30-15:30	<p>The ergonomics of interactive and stereoscopic 3D product models for design education L. -C. Chen, P.-Y. Chu and Y. -M. Cheng, Taiwan</p> <p>Ergonomic perspective of computer usage Y. Ozturkoglu, Turkey</p> <p>"Will use it, because I want to look cool." A comparative study of simple computer interactions using touchscreen and in-air hand gestures V. Vaidyanathan and D. Rosenberg, USA</p> <p>Evaluation of endpoint compliance based on the estimation of the muscle activity Y. Kurita, K. Sakurada and T. Tsuji, Japan</p> <p>Effects of personalized environmental control (PEC) on user comfort, health and typing performance A. Hedge, USA</p>
30	<b>Workload and Stress Assessment in Complex Systems I</b> Co-Chairs: D. Kaber, USA, and M. Swangnetr, Germany
Track PEHF  Room 0.104  13:30-15:30	<p>Experimental study of task load measurement for basic flight operation task L. Wang, X. He, Y. Wang and Y. Chen, China</p> <p>Probe into the methods of flight training based on special flight environment X. Zhao, Y. Li, L. Ding, L.-D. Zhang, W.-B. Zhang and Z. -W. Zhu, China</p> <p>The influence of different advanced systems for computer-assisted surgery on performance and workload of surgeons M. Luz, S. Schaller, G. Strauss and D. Manzey, Germany</p> <p>Workload assessment for manual and automated processes in life sciences M. Swangnetr, Germany/Thailand, D. Kaber, USA, E. Vorberg, H. Fleischer and K. Thurow, Germany</p> <p>The study of crew workload evaluation method and software system application X. Wei, D. Dayong, C. Yingchun and S. Xiuli, China</p> <p>The treatment performances of smart healthcare clothing system based on U-computing using transcutaneous electrical nerve stimulator for the hypertensive R. -H. Kim, S. Korea</p>

31	<b>Workload, Fatigue, Drowsiness and Emotions in Driving</b> Co-Chairs: G. Kountouriotis and Y. Taylor, UK, and K. Karrer-Gauß, Germany
Track RR Room 0.105 13:30-15:30	<p>Thinking when driving: The effect of cognitive load when steering around bends G. Kountouriotis, N. Merat, P. Gardner and R. Wilkie, UK</p> <p>Shiftwork and driver fatigue Y. Taylor, N. Merat and S. Jamson, UK</p> <p>Examining the moderating influence of driver state monitoring devices on high sensation seekers: A simulator study K. Karrer-Gauss and M. Rötting, Germany</p> <p>The effect of communicational signals on drivers' emotion states Y. Ba, W. Zhang and G. Salvendy, China</p> <p>Overview of methods for driver fatigue assessment based on expert surveys C. Platho, H. Kolrep and E. Schmidt, Germany</p> <p>Estimation of driver sleepiness by microsleep density quantification D. Sommer and M. Golz, Germany</p>
32	<b>System Design and Evaluation I</b> Co-Chairs: N. Mansfield, UK, and H. Furukawa, Japan
Track RR Room 3.201 13:30-15:30	<p>Evaluation of and design implications for force-sensitive touch input devices L. Diwischek and S. Essers, Germany, and J. Lisseman, USA</p> <p>Better vehicle design for all S. Karali, D. Gyi and N. Mansfield, UK</p> <p>Pedestrian navigation guidance for elderly people's safe and easy wayfinding H. Furukawa, Japan</p> <p>Seat design parameters for an elevated driving posture J. Smith, N. Mansfield and D. Gyi, UK</p> <p>Information fusion for driver distraction studies using eye tracking glasses L. Paletta, M. Schwarz, C. Wollendorfer and R. Perko, Austria</p>
33	<b>Improving Manufacturing</b> Co-Chairs: G. van Rhijn, The Netherlands, N. Larson, USA, and P. Vink, The Netherlands
Track SO Room 3.202 13:30-15:30	<p>Vessel information-rich meta-file to increase the life cycle of small craft passenger boats N. Frangakis, V. Stratis, V. Papakonstantinou and E. Cauchi, Greece</p> <p>Industrial ergonomics: The impact of a macroergonomics program with a well-defined performance goal in reducing work-related musculoskeletal disorders N. Larson, H. Wick, T. Albin, S. Hallbeck, USA, and P. Vink, The Netherlands</p> <p>3M Poland manufacturing: An ergonomics success story M. Szpak and T. Szpak, Poland, and N. Larson, USA</p> <p>Blending corporate ergonomics with European and French regulations M. Bouvin, France, and N. Larson, USA</p> <p>WRMSD survey. A comparison between assembly and manufacturing tasks N. Perez, J. Arellano and C. Negrete, Mexico</p> <p>Design, maintenance and refurbishment of turbines in a collaborative environment A. Reyes-Lecuona, L. Molina-Tanco, D. González-Toledo, S. Flores, E. Frutos, H. Patel and R. Houghton, Spain/UK</p> <p>Field of actions of industrial engineering and of the human resource management influenced by ageing people S. Stowasser, Germany</p>

<b>34</b>	<b>Individual and the Society in the Conceptual Era</b> Co-Chairs: A. Cybal-Michalska and T. Usowicz, Poland
<b>Track STHESCA</b>	<b>The world of boundaryless careers – About the need for a subject's proactivity</b> A. Cybal-Michalska, Poland
<b>Room 2.114</b>	<b>New concepts for brand design in an inclusive society</b> S. Camplone, G. Bucchianico and S. Picciani, Italy
<b>13:30-15:30</b>	<b>The impact of social networks of SP1500 companies vision on environmental governance</b> A. Shahgholian, R. Muscalu and B. Theodoulidis, UK
	<b>Shopping experience for all. Social inclusion through the multisensorial design of daily activities</b> S. Camplone, Italy
	<b>Individual determinants of work engagement as a source of job satisfaction - comparative analysis among different occupational groups</b> M. Jaworek, Poland
	<b>Innovative growth in SMEs</b> J. Rosiński, Poland
<b>35</b>	<b>Ergonomics in Building and Architecture</b> Chair: J. Charytonowicz, Poland
<b>Track HFSI</b>	<b>Architect-researcher as a model combination of research and design practice on examples</b> K. Fross, Poland
<b>Room 0.310</b>	<b>Eco-ergonomics in architectural practice</b> J. Charytonowicz and M. Skowronski, Poland
<b>13:30-15:30</b>	<b>Evaluation research in architectural design based on examples of contemporary aquaparks</b> K. Kielar and K. Fross, Poland
	<b>Design of exterior facades and ergonomics of the interiors</b> J. Tymkiewicz, Poland
	<b>Biomechanical evaluation of professional violinists musculoskeletal system overloading – motion capture, electromyography and thermovision study</b> W. Spikowska-Pawelec, M. Rychlik and A. Rzepnicka, Poland
	<b>Performance evaluation of residential architecture – Scope and methods applied in two case studies based in North England</b> M. Baborska-Narożny and F. Stevenson, UK
15:30-16:00 Refreshments will be provided in the foyer on the ground floor	
<b>36</b>	<b>Pleasurable Design for Diverse Users in Asia</b> Co-Chairs: P. L. P. Rau and J. Zhou, China
<b>Track APD</b>	<b>The elderly's text entry on smart phones and tablets: Challenges and implications</b> J. Zhou, P.L. P. Rau, G. Salvendy and J. Zhang, China
<b>Room 2.113</b>	<b>Should the Internet of things be human-like? Exploring social media users' acceptance on anthropomorphic Internet of things</b> M. Mao, UK, and P. L.P. Rau, China
<b>16:00-18:00</b>	<b>Cognitive training profile for older people in China</b> D. Wang and H. Xiao, China
	<b>Constructing interactive virtual scenarios for investigating human behaviors in pre-movement time of high-building fire</b> H. Qin, X. Feng and W. Hou, China
	<b>Comparing mystery shopping with Smartphone and traditional mystery shopping</b> C. G. Santoso, P.L. P. Rau and Y. Zhang, China
	<b>A research based on the iOS platform on the interface design of comprehensively informationized teaching system</b> S. Gao and W. Bian, China

37	<b>Recent Methodological Developments and Results from Psychophysiology in Ergonomics (PIE)</b> Chair: K. Kallus, Austria
16:00-18:00 Room 2.110 Track AVI	<p>Some challenges in the design of human-automation interaction for safety-critical systems  M. Feary and E. Roth, USA</p> <p>Detection of a decrease in concentration using indices derived from heart rate and respiration toward affective human-robot interaction  M. Ohsuga and H. Boutani, Japan</p> <p>Heart rate variability as a mental workload index  S. Miyake, H. Kuraoka and C. Wada, Japan</p> <p>Methodological issues of pilots' performance assessment  I. Bukhtiyarov, K. Kallus, E. Osokina and C. Talker, Russia/Austria</p> <p>Increasing the validity of psychophysiological measures by task-related analysis strategies  K. Kallus, Austria</p> <p>VOD-CA - Testing a Velocity-Obstacle based Display for Collision Avoidance in aviation  U. Nagler, P. Manske, P. Sachse, M. Nitzschner, M. Martini and M. Furtner, Austria/Germany</p> <p>How to involve psychophysiology in the field of transportation: Recent contributions to an applied psychophysics problem  V. Wagner and K. Kallus, Austria</p>
38	<b>Civilization Change: Ideological, Economic, and Historical Change</b> Chair: M. Hail, USA
16:00-18:00 Room 0.101 Track CCDDM	<p>The end of a civilization: What moderns might learn from Thucydides' Peloponnesian War  G. McBrayer, USA</p> <p>The roots of self-doubt (and self-loathing) in the west  J. Pidluzny, USA</p> <p>Medical decision-making in international settings  C. Glymour and C. Gray, USA</p> <p>Pulse: Engaging communities on the edge  C. Kang, USA</p> <p>Extracting understanding from automated metaphor identification: Contrasting concepts of poverty across cultures and languages  S. Taylor, L. Feldman, K. Cho, S. Shaikh, I. Cases, Y. Peshkova, G. Broadwell, T. Liu, U. Boz, K. Elliott, B. Yamrom and T. Strzalkowski, USA</p> <p>Forecasting human behavior: Virginia Cavalry and The American Civil War 1861-1865  A. Rolander, USA</p>
39	<b>Trust of Emergent Signal and Task Technologies</b> Chair: J. Bliss, USA
16:00-18:00 Room 1.112 Track CN	<p>Is ignorance bliss? Role of credibility information and system reliability on user trust in emergent technologies  P. Madhavan, USA</p> <p>Response trends for multimodal signals: Implications for selection of alarm modality  C. Brill, USA</p> <p>Response strategies and biases in interaction with alarms  D. Manzey, N. Gerard, T. Guenzler and R. Wiczorek, Germany</p> <p>US Navy Office of Naval Research Global Overview - Funding opportunities for basic research  J. Stark, USA</p> <p>Speeded responses to signals from novel systems  C. Baldwin, USA</p> <p>Impact of device reliability and route exposure on navigational performance  K. Kennedy and J. Bliss, USA, and L. Nunes, Portugal</p>

<b>40</b>	<b>Ergonomics in Fashion Industry</b> Chair: A. Luximon, Hong Kong
16:00-18:00	<p>Track DHMHF</p> <p>Room 1.113</p> <p>Biomechanical model of bare-breasts during running J. Zhou, W. Yu, L. Chen, M. Suh and Y. Cai, Hong Kong</p> <p>A facial mask study for Chinese female Y. Luximon and Y. Cong, Hong Kong</p> <p>A study of the comfort of the materials for self-grown fashion creation P. Wang and M. C.F. Ng, Hong Kong</p> <p>A finite element mechanical contact model of 3D human body and a well-fitting bra Y. Cai, W. Yu and L. Chen, Hong Kong</p> <p>Thermal human modeling: A design tool for functional clothing H. Chao, A. Luximon and K. -W. Yeung, Hong Kong</p> <p>An innovative design of intelligent clothing for measuring human body temperature based on optical fiber Bragg grating Y. Zhang, C. Hong, H. long and A. Luximon, China</p>
<b>41</b>	<b>Ergonomics in Design of Workstations I</b> Chair: F. Soares Masculo, Brazil
16:00-18:00	<p>Track ED/EMUSP</p> <p>Room 1.111</p> <p>Ergonomics solutions in the footwear industry: The case of the activity of footwear unmold F. Masculo, G. Colaço and I. Machado, Brazil</p> <p>Ergonomic evaluation as a holistic evaluation in company assembly hydrometers C. R. Ricardo Leite da Silva and G. Ribeiro, Brazil</p> <p>The evaluation of work systems and products: Considerations from the cultural ergonomics S. Mejías, Cuba, and M. Soares, Brazil</p> <p>Hyperbaric chambers: A human–environment–machine approach N. Bitterman and A. Bonen, Israel</p> <p>Analyzing the difference between experts and non-experts in Ikebana Y. Ikenobo, N. Kida and N. Kuwahara, Japan</p> <p>Numerical analysis on the way of tea between expert and beginner W. Zelong, E. Aiba, S. Kanazawa, T. Ota, K. Kuroda, Y. Takai, A. Goto and H. Hamada, Japan</p> <p>Use of adaptive controlling torques with the aim to transfer information by the haptic perception channel J. Winterholler, K. Chmara, C. Schulz and T. Maier, Germany</p>
<b>42</b>	<b>Ergonomics and the Virtual and Digital Environment I</b> Chair: C. Falcao, Brazil
16:00-18:00	<p>Track ED/EMUSP</p> <p>Room 3.112</p> <p>Use of virtual reality in neurorehabilitation: How the effects of immersion and presence may contribute to motor and cognitive recovery H. Barros, M. Soares and E. Filho, Brazil</p> <p>Applications of haptic devices &amp; virtual reality in consumer products usability evaluation C. Falcao and M. Soares, Brazil</p> <p>The state of art in virtual reality applied to digital games: A literature review B. Carvalho, M. Soares, A. Neves, G. Soares and A. Lins, Brazil</p> <p>Sense of self, body and presence in virtual reality technologies A. C. De França, L. Meira and M. Soares, Brazil</p> <p>Function height in way-finding while peripheral visual fields are restricted with synchronously moving virtual holes Y. Yoshioka, Japan</p> <p>Ergonomic evaluation of cab design employing digital and physical mock-ups S. Aromaa, J. Viitaniemi, K. Helin and A. Vento, Finland</p> <p>Application of 3D full body scanner in ergonomics M. Hovanec, T. Toth, V. Rajtukova, H. Pacaiova and J. Zivcak, Slovakia</p>



<b>43</b>	<b>Human Factors and Ergonomics in Safety-Critical Systems I</b> Co-Chairs: Z. Li and C. Wang, PR China
16:00-18:00 Room 3.111 Track ED/EMUSP	<p>Workload and dispatcher allocation in the subway operation control center Y. Liu, China</p> <p>A conceptual model for adaptive human-computer interface (AHCI) of weapon system based on context-aware Q. Xue, X. Han and X. Liu, China</p> <p>Cognitive ergonomics in the design of the display interface for manually controlled rendezvous and docking C. Wang, Y. Tian and X. Chen, China</p> <p>Visual search in airport-security screening H. Jin, Y. Cai and Y. Hong, China</p> <p>Ecodesign and usability in the redesign of everyday products A. Sousa, A. Sampaio and P. Simões, Portugal</p> <p>Designing and evaluating ubicomp characteristics of intelligent in-car systems H. Karvonen and T. Kujala, Finland</p> <p>In-depth analysis for caught in between fatalities C. -F. Chi, S.-Z. Lin and R. -S. Dewi, Taiwan</p>
<b>44</b>	<b>Education I</b> Chair: M. Ekiel-Jeżewska, Poland
16:00-18:00 Room 0.304 Track STHESCA	<p>The system of learning and teaching organized by the Polish Commission of the National Education (1773-94) M. Ekiel-Jeżewska, Poland</p> <p>21st century ergonomic education from little e to big E C. Barsky, USA, and S. Glazek, Poland</p> <p>Curriculum, content and controversy in higher education J. Moir, UK</p> <p>Degree of commitment among students at a technological university – Testing a new research instrument J. Einolander and H. Vanharanta, Finland</p> <p>Risk assessment for occupational exposure to chemicals in an electroplating industry M. Silva and M. Corticeiro Neves, Portugal</p>
<b>45</b>	<b>Ergonomics and New Services in Healthcare I</b> Chair: G. Andreoni, Italy
16:00-18:00 Room 0.102 Track HC	<p>The logistics of distributed aged care in a local Swedish community T. Larsson, Sweden</p> <p>The ontology for the integrated digital human model of PEGASO C. Redaelli, A. Zangiacomi, L. Cruz, M. Sacco and C. Lafortuna, Italy</p> <p>Music therapy as an interactive rehabilitation tool for people with Alzheimer's: Ergonomical issues G. Andreoni, A. Carpentiero, F. Costa, S. Muschiato and L. Spreafico, Italy</p> <p>Visual and spatial rehabilitation for elderly in a sensorial path G. Andreoni, F. Costa, S. Muschiato, L. Spreafico and D. Tinè, Italy</p> <p>Tailoring motivational mechanisms to engage teenagers in healthy life-style: A concept M. Caon, S. Carrino, C. Lafortuna, J. Serrano, N. Coulson, M. Sacco, O. Khaled and E. Mugellini, Switzerland/Italy/Spain/UK</p> <p>Evaluation of professional ultrasound probes with Santos DHM. Handling comfort map generation and ergonomics assessment of different grasps M. Mazzola, L. Forzoni, S. D'Onofrio, T. Marler and S. Beck, Italy/USA</p> <p>An innovative bike for children play and rehabilitation C. Standoli, M. Romero, G. Vazzoler and G. Andreoni, Italy</p>

<b>46</b>	<b>Medical Device Design</b> Chair: J. Dell'Anna, Germany
Track HC	<p><b>Biomechanical and qualitative study of a multiple adjustable shower trolley</b> H. Knibbe, N. Knibbe and E. Waaijer, The Netherlands</p> <p><b>A 5-category classification system for the design and planning of healthcare facilities</b> E. Waaijer and H. Knibbe, The Netherlands</p> <p><b>Medical device for patient immobilization and repositioning during proton therapy treatment</b> L. Rizzi, U. Spina, C. Dinardo and V. Dimiccoli, Italy</p> <p><b>Development of medical device UUI-profiles for reliable and safe human-machine-interaction in the integrated operating room of the future</b> A. Janss, J. Benzko, P. Merz, J. Dell'Anna, M. Strake and K. Radermacher, Germany</p> <p><b>A proposal of feature extraction method for press-through-package designs based on fourier transformation</b> Y. Hosozawa and M. Kimura, Japan</p> <p><b>The ergonomical design: Integrating a medical approach into the innovative design process</b> V. Rosa, F. Handgraaf, J. Sayeux, B. Pereyre and F. Cordier, France</p> <p><b>Surgical pathologist's workstation ergodesign</b> G. Nunes, A. Sampaio and P. Simões, Portugal</p>
Room 0.104	16:00-18:00
<b>47</b>	<b>Human Factors in Systems Engineering I</b> Chair: K. Cobb, USA
Track HFSSE	<p><b>The concept of building the inference engine of a reference model for the development and selection of Open Source tools</b> B. Chrabski, K. Dowgielewicz and C. Orłowski, Poland</p> <p><b>User interface enhancements of a knowledge base for reliability engineering in a large organization</b> G. Nanda, J. Tan, P. Auyeung and M. Lehto, USA</p> <p><b>Modelling the influence of human factors on the perception of renewable energies. Taking geothermics as example</b> S. Kowalewski, A. Borg, J. Kluge, S. Himmel, B. Trevisan, D. Eraßme, M. Ziefle and E. -M. Jakobs, Germany</p> <p><b>A computerized model to support the evaluation of emergency response exercises for evacuation of areas at risk</b> P. Carvalho, C. Guimarães and J. O. Gomes, Brazil</p> <p><b>The human factor in systems engineering: Engineering systems thinking</b> M. Frank, Israel</p> <p><b>Edge awareness – A dynamic safety perspective on four accidents/incidents</b> P. Stensson and A. Jansson, Sweden</p> <p><b>Setting up a systems engineering product development environment to comply with functional safety standards</b> K. Cobb, USA</p>
Room 0.105	16:00-18:00
<b>48</b>	<b>New Directions in Teaching and Learning Services</b> Chair: D. Nielsen, England
Track HSSE	<p><b>Group work: does it work?</b> G. Stock, UK</p> <p><b>Meeting service needs of the changing profile of student customers</b> D. Nielsen, Y. Lin and A. White, UK</p> <p><b>Disrupting the discourse – The challenge of digital pedagogy in HE</b> P. Booth, UK</p> <p><b>Students' adoption of mobile technology</b> D. Nielsen, Y. Lin and A. White, UK</p> <p><b>Evaluating digital library's service concept and pre-launch implementation</b> H. Kautonen, Finland</p> <p><b>Effect of social promotion for customer choice in the high mobility of mobile phone market</b> J. Ahson and H. Masuda, Japan</p> <p><b>Exploring students' experiences of service learning and work integrated learning in the absence of university-industry collaborative partnership</b> S. Seyama, South Africa</p>
Room 3.201	16:00-18:00

49	<b>Human Centred Design for Services</b> Co-Chairs: S. Holmlid, Sweden, T. Mattelmäki, Finland, and D. Sangiorgi, England
16:00-18:00 Room 3.202 Track HSSE	<b>Bringing empathy in a service network</b> J. -J. Lee, T. Mattelmäki and J. Hyvärinen, Finland <b>Human-centered design: Integrating systems &amp; services around people by providing a common ground for action</b> S. Junginger, Denmark <b>Gaining contextual knowledge about user experience by using participants as researchers</b> F. Sleeswijk-Visser and F. Van Doorn, Netherlands <b>Service design and value-in-use</b> S. Holmlid, Sweden <b>Human centred design approach for services: A reflection on origins and motivations</b> D. Sangiorgi, England
50	<b>Software as a Service: Achieving Security via Usability, Trust, and Privacy for the Internet of Services</b> Chair: A. Seffah, France/Canada
16:00-18:00 Room 2.114 Track HSSE	<b>Application security – A framework for integrating security into the application life cycle</b> L. Poulin, A. Alain and A. April, Canada <b>Designing usable, yet secure user authentication services: A user authentication protocol</b> C. Braz, USA, A. Seffah, France, and P. Poirier, Canada <b>A snap-shot of user support services in Earth System Grid Federation (ESGF): A use case of climate cyber infrastructure</b> H. Chunpir, Germany, T. Ludwig, Germany, and A. Badewi, UK <b>An insight survey of innovation laboratories worldwide</b> A. Bano Memon, L.-P. Meyer, K. Meyer and K. -P. Fährnich, Germany
51	<b>Human Factors and Ergonomics in Safety I</b> Chair: R. Balci-Sinha, USA
16:00-18:00 Room 0.310 Track SMHF	<b>Human factors contributions to consumer product safety</b> R. Balci-Sinha and B. Novak, USA <b>Ergonomic assessment of activities of front office worker in selected hospitality units and record related health</b> N. Mehra, S. Rani, P. Sharma and P. Joshi, India <b>Ergonomic assessment in handicraft workshops: A case study in wooden workshops in Isfahan-Iran</b> H. Naeini, M. Nasiabadi and A. Dehgan, Iran <b>Common and chronic problems among nurses working in healthcare units of Utrakhand State of India</b> I. Karki, P. Sharma, S. Rastogi and P. Joshi, India <b>Physiological workload and postural stress of farm women in harvesting of paddy grains</b> B. Ruplekha and K. Mira, India <b>Automotive central console interface design</b> F. Soares, P. Simões and R. Simoes, Portugal

<b>52</b>	<b>Physical Ergonomics and Ergonomic Analysis I</b> Chair: A. Todd, South Africa
16:00-18:00 Track PEHF Room 0.313	<p><b>Self-adaptive blur: A persuasive method for healthy posture</b> Y. Liu, C. Liao and J. Zhang, P.R. China/USA</p> <p><b>Ergonomic analysis of rice basketwork</b> N. Rodjanapanurat, O. Buranruk, P. Wongchai and K. Wongwilairat, Thailand</p> <p><b>Development of design guidelines to create inclusive enabling environments for Indian elderly</b> S. Sankat and R. Khare, India</p> <p><b>The quadruple burden of disease and ergonomics – application of ergonomics principles within the industrially developing context: A South African example</b> A. Todd, South Africa</p> <p><b>Effect of time of day and treadmill running on the vertical spinal creep response</b> R. Puntumetakul, U. Karukunchit, M. Swangnetr and M. Puntumetakul, Thailand</p> <p><b>Error analysis for three-dimensional anthropometric survey of young Chinese males</b> X. Zhang, X. Zheng, S. Ding, T. Liu and H. Fang, China</p>
<b>53</b>	<b>Highly Automated Driving - Aspects of Driver Vehicle Interaction I</b> Co-Chairs: K. Bengler, Germany, R. Happee and J. de Winter, The Netherlands
16:00-18:00 Track RR Room 0.307	<p><b>Comparing the perception of critical longitudinal distances between dynamic driving simulation, test track and vehicle in the loop</b> C. Purucker, F. Rüger, N. Schneider, A. Neukum and B. Färber, Germany</p> <p><b>The effect of urgency of take-over requests during highly automated driving under distraction conditions</b> F. Naujoks, C. Mai and A. Neukum, Germany</p> <p><b>Evaluation of an Attention Monitor for detection of and feedback on driver's distraction level on different automation levels</b> N. Schoemig and A. Kaussner, Germany</p> <p><b>Reading the Driver: Visual Workload Assessment in Highly Automated Driving Scenarios</b> M. Zimmermann, I. Rothkirch and K. Bengler, Germany</p> <p><b>Mediating the interaction between human and automation during the arbitration processes in cooperative guidance and control of highly automated vehicles: Basic concept and first study</b> M. Baltzer, E. Altendorf, S. Meier and F. Flemisch, Germany</p> <p><b>Transition of control: Automation giving back control to the driver</b> D. Willemsen, A. Stuiver and J. Hogema, The Netherlands</p> <p><b>Influence of expertise on the judgment of controllability of advanced driver assistance systems</b> P. Galaske, M. Farid and K. Bengler, Germany</p>
<b>54</b>	<b>Human Factors at Level Crossings</b> Chair: A. Mills, UK
16:00-18:00 Track RR Room 2.115	<p><b>Evaluating an advance warning sign for level crossings</b> D. Basacik, S. Cynk, T. Flint and J. McMorrow, UK</p> <p><b>Decision-making at level crossings – Should a decision point marker be provided?</b> C. Turner, UK</p> <p><b>Drivers' visual scanning and head check behavior on approach to urban rail level crossings</b> K. Young, M. Lenné, V. Beanland, P. Salmon and N. Stanton, Australia/UK</p> <p><b>How well do people understand the signs and signals at user-worked level crossings?</b> S. Cynk, T. Flint and J. McMorrow, UK</p> <p><b>Improving the railway's understanding of accident causation through an integrated approach to human factors analysis and technical safety data recording</b> C. Wullems, G. Dell and Y. Toft, Australia</p> <p><b>Reducing the number and impact of railway underline bridge strikes</b> M. Stout and D. Basacik, UK</p> <p><b>Evaluating design hypotheses for rail level crossings: An observational study of pedestrian and cyclist behavior</b> G. Read, P. Salmon, M. Lenné and E. Grey, Australia</p>

<b>55</b>	<b>Affective User Experience</b> Chair: D. Coelho, Portugal
<b>Track APD</b>	<b>Beyond convenience: The role of emotions in the adoption of sustainable technologies</b> A. Thatcher, M. Lekitlane and D. Riga, South Africa
<b>Room 2.113</b>	<b>Personalizable vehicle user interfaces for better user experience</b> C. J. Normark, Sweden
<b>8:00-10:00</b>	<b>Eliciting user experience through Rasch-calibrated metrics for latent variables</b> F. Camargo, UK
	<b>Specification of affective user experience in product design</b> D. Coelho, Portugal
	<b>A study of passengers' real-time emotional responses and comfort experience during the flight using an experience sampling method</b> N. Ahmadpour, J.-M. Robert and G. Lindgaard, Canada/Australia
	<b>Reconciling affective and ergonomic objectives of product design</b> D. Coates, USA
<b>56</b>	<b>Human Factors Issues in Air Traffic Management I</b> Co-Chairs: C. Surakitbanharn and S. Landry, USA
<b>Track AVI</b>	<b>Flight deck crew experiences flying profile descents during metering operations</b> L. Martin, S. Sharma, J. Kaneshige and S. Lozito, USA
<b>Room 2.110</b>	<b>Research methods for simulation-based training in air traffic management</b> C. Muehlethaler and C. Knecht, Switzerland
<b>8:00-10:00</b>	<b>A new approach for non-technical skills training in air traffic management: Training design</b> C. Knecht and C. Muehlethaler, Switzerland
	<b>Understanding the human factors limitations of automated conflict resolution through air traffic controller solicitation</b> C. Surakitbanharn, A.-Q. Dao and S. Landry, USA
	<b>Avoiding out of the loop effects of automatic conflict avoidance: Preliminary design and results</b> P. Le Blaye and F. Bollon, France
	<b>System modeling to identify agent functions in complex human-integrated systems: An application to air transportation</b> S. Landry, USA
	<b>How pilots assess their non-technical performance – a flight simulator study</b> P. Gontar, H.-J. Hoermann, J. Deischl and A. Haslbeck, Germany
<b>57</b>	<b>Advances and Challenges in Cross-Cultural Competence in the US Military, 2001-2014 and Beyond</b> Co-Chairs: W. Perry and B. Connable, USA
<b>Track CCDM</b>	<b>What next? Retaining or losing cross-cultural competence after Iraq and Afghanistan</b> B. Connable, USA
<b>Room 0.101</b>	<b>Socio-cultural capability requirements across all phases of military operations</b> W. Perry, USA
<b>8:00-10:00</b>	<b>PSYMDEV, a system intended for assisting the military analyst to construct psychological messages</b> C. Faucher and M. Machtoune, France
	<b>Impact of network connectivity and agent commitment on spread of opinions in social networks</b> D. Galehouse, T. Nguyen, S. Sreenivasan, O. Lizardo, G. Korniss and B. Szymanski, USA
	<b>Behavioral Influence Assessment (BIA): A multi-scale system to assess dynamic behaviors within groups and societies across time</b> M. Bernard, G. Backus and A. Bier, USA, and W. Busch and R. Damron, Germany

58	<b>Neuroergonomics of Human Performance</b> Chair: R. Parasuraman, USA
Track CN Room 0.112 8:00-10:00	<b>Neuroergonomics of skill acquisition: Genetic and non-invasive brain stimulation studies</b> R. Parasuraman, P. Greenwood, M. Scheldrup, B. Falcone, B. Kidwell and R. Mckendrick, USA <b>Effects of fNIRS on physiological and performance under vibratory stimulus</b> J. Sugimoto and H. Hagiwara, Japan <b>Brain activity during a visual stimulation task performed alone and with an auditory task</b> N. Komiya and H. Hagiwara, Japan <b>Does brain connectivity discriminate intentional expression of hidden emotion?</b> J. C. Woo, H. J. Lee, S. Park and M. Whang, South Korea <b>Inattentional deafness in simulated air traffic control tasks: A behavioural and P300 analysis</b> L. Giraudet, M. Bérenger, J.-P. Imbert, S. Tremblay and M. Causse, France/Canada <b>Neurocognitive design methods for plastic model kit</b> M. Takao, M. Matsushima, S. Koretake, H. Shimizu and T. Kamei, Japan <b>Organizational analysis of work and cognitive ergonomics in self-management working groups in the cosmetic industry</b> R. Filus and F. Santana, Brazil
59	<b>DHM and Work Design</b> Co-Chairs: M. Mazzola, Italy, and T. Marler, USA
Track DHMHF Room 1.113 8:00-10:00	<b>Using Santos DHM to design the working environment for sonographers in order to minimize the risks of musculoskeletal disorders and to satisfy the clinical recommendations</b> M. Mazzola, L. Forzoni, S. D'Onofrio, C. Standoli and G. Andreoni, Italy <b>Using MRI-derived spinal geometry to compute back compressive stress (BCS): A new measure of low back pain risk</b> R. Sesek, R. Tang, C. Gungor, S. Gallagher, J. Davis and K. Foreman, USA/Turkey <b>An optimization-based system for processing motion-capture data with digital human models</b> T. Marler, R. Johnson and S. Beck, USA <b>Reconstruction of arbitrary human models from anatomical dimensions</b> Y. Endo, M. Tada and M. Mochimaru, Japan <b>The quest to validate human motion for digital ergonomic assessment – Biomechanical studies to improve the human-like behavior of the human model “EMA”</b> D. Gläser, L. Fritzsche, S. Bauer and W. Leidholdt, Germany <b>Basic method for handling trivariate normal distributions in case definition for design and human simulation</b> D. Högberg, E. Brolin and L. Hanson, Sweden <b>Evaluation of 3D Chinese, European and standards head morphology for helmet dimensions definition</b> A. Kollia, L. Navarro, L. Bouten, J. Cornolo and S. Avril, France
60	<b>Sustainable Design II</b> Chair: F. Moreira da Silva, Portugal
Room 1.111 Track ED/EMUSP 8:00-10:00	<b>Designing for elderly people - ergonomics of vision</b> C. Pinheiro and F. Moreira da Silva, Portugal <b>Color in recycled crystal</b> F. M. Marques and P. Oliveira, Portugal <b>Costume design: Ergonomics in performance art</b> A. Cabral and C. Figueiredo, Portugal <b>Beyond ergonomics: Visions of the body in product design</b> R. Dias and L. Ferrão, Portugal <b>Aspects of ergonomics and sustainability design applied to the Utilities Board for Café Tokyo's in Recife, Pernambuco/Brazil</b> G. Silva, T. Tabosa, A. Andrade and V. Cavalcanti, Brazil <b>Ergonomics' valorization through the systemic design - Innovation for an active society</b> R. Mendonca, Brazil/Italy



<b>61</b>	<b>Design and Human Behavior II</b> Chair: E. Duarte, Portugal
8:00-10:00 Room 3.112 Track ED/EMUSP	<p>Evaluation of an experimental virtual environment prototype for older population warning studies L. Reis, E. Duarte and F. Rebelo, Portugal</p> <p>Human-social interaction model for e-health interfaces C. Pernencar, Portugal</p> <p>Contribution of design in the developmental process of external prosthetic medical devices D. Matos, A. Pinho, A. Ferreira and J. Martins, Portugal</p> <p>Older adults' training preferences for interacting with product W. -C. Tsai, Taiwan</p> <p>Sustainability, interior design, and comfort in youth travel accommodations S. Klavina, A. Ferreira and M. Pinheiro, Portugal</p> <p>Creating an ergonomic solution for avoiding errors in blood transfusion S. Albolino, F. Ranzani, R. Casini and B. Dannaoui, Italy</p>
<b>62</b>	<b>Design and Applied Anthropometry II</b> Chair: P. Arezes, Portugal
8:00-10:00 Room 3.111 Track ED/EMUSP	<p>Designing an ergonomic luggage for Taiwanese children Y. -C. Lin, Taiwan</p> <p>Fundamentals of a patch design for body perspiration: An approach in health promotion V. Jalali, H. Naeini, S. Dindar, N. Kooshki and A. Jahanbakhsh, Iran</p> <p>Evaluation of an optimal width of a rear seat of sedans A. Zunjić and V. Lesnikov, Serbia</p> <p>Anthropometric analysis of human head to identification of height in proper use of ballistic helmets M. Catapan, M. Okimoto, M. Villas Boas and R. Waldhauer, Brazil</p> <p>Tridimensional study scanning the variability anthropometric head human use of ballistic helmets M. Catapan, M. Okimoto, M. Villas Boas and R. Waldhauer, Brazil</p> <p>Development and validation of a posture driven tool to estimate the hazards of manual lifting S. -Y. Lu, Y.-S. Ing, C.-L. Lee and Y. -T. Pan, Taiwan</p>
<b>63</b>	<b>Interface Design II</b> Chair: L. Paschoarelli, Brazil
8:00-10:00 Room 0.304 Track ED/EMUSP	<p>Recommendations for user centered design of interfaces for seniors in the context of health care A. Abi Akle, K. Borgiel, S. Minel and C. Merlo, France</p> <p>An approach on mobiles design methodologies of interactive system A. Chammas, M. Quaresma and C. Mont'Alvão, Brazil</p> <p>Study on the relationship of interface usability characteristics with operators' emotional states in industrial context J. Zhao and M. Bordegoni, Italy</p> <p>SoKEYTo: A tool to design universal accessible interfaces D. Sauzin, F. Vella and N. Vigouroux, France</p> <p>Universal design concepts applied to a semi-automated loft for the third age with accessibility A. Arruda, E. Sant'Anna Maura and R. Hoppe, Brazil</p>

<b>64</b>	<b>Work Stressors, Resources and Safety in Telehealth Technology and Health Care Work I</b> Chair: A. Elfering, Switzerland, and T. Fairbanks, USA
8:00-10:00	<p><b>Track HC</b></p> <p><b>Stochastic resonance training at work reduces musculoskeletal pain in nurses</b> A. Elfering, V. Schade, C. Burger, L. Stöcklin, S. Bauer, and L. Radlinger, Switzerland</p> <p><b>Workflow interruptions, social stressors from supervisor(s) and attention failure in surgery personnel</b> D. Pereira, P. Muller and A. Elfering, Switzerland</p> <p><b>Maladaptive back beliefs and low back pain in nurses: A longitudinal study</b> A. Elfering, C. Rolli, U. Müller, O. Tamcan and A. Mannion, Switzerland</p> <p><b>Effects of whole body vibration on musculoskeletal complaints of surgery staff</b> M. Leitner, A. Blasimann, B. Dubach and H. Baur, Switzerland</p> <p><b>Electromyographic activity of back muscles during stochastic whole body vibration</b> A. Blasimann, U. Fleuti, M. Rufener, A. Elfering, H. Baur and L. Radlinger, Switzerland</p> <p><b>Development of telemedicine in oil &amp; gas through the capabilities approach</b> A. Fernandes, K. Reegard, A. Droivoldsmo, J. Simensen and G. Rindahl, Norway</p> <p><b>Development of an E-healthcare system for university students</b> Y. Imai, E. Miyazaki and H. Kamano, Japan</p>
<b>65</b>	<b>Service Innovation in Business Networks</b> Co-Chairs: N. Feldmann and M. Kohler, Germany
8:00-10:00	<p><b>Track HSSE</b></p> <p><b>Designing appreciation in services</b> W. Ganz, Germany</p> <p><b>Bridging the chasm: towards a unified perspective of service, product, and platform innovation</b> D. Meersman, Belgium</p> <p><b>Service networks in the area of E-mobility</b> C. Stryja, P. Hottum and H. Fromm, Germany</p> <p><b>Deutsche Telekom's Developer Garden – An incumbent's response to the challenges of innovating in a complex and rapidly changing world</b> P. Bruhn, Germany</p> <p><b>The BMW Group as the leading provider of premium mobility services – Challenges of a transformation</b> M. Keil and M. Hauschild, Germany</p>
<b>66</b>	<b>Managing the Complexity in Transformative Service Design</b> Chair: S.-T. Yuan, Taiwan
8:00-10:00	<p><b>Track HSSE</b></p> <p><b>Prejudice and Innovation: A critical relation for designing potentially innovative solutions</b> M. Manhaes, Brazil, B. Mager, Germany, and G. Varvakis, Brazil</p> <p><b>Problematising change in transformative service design</b> D. Sangiorgi, UK</p> <p><b>Transformative service design: From technology to dechnology</b> C. -F. Yang, C.-S. Wu, Y. Gong and T. -J. Sung, Taiwan</p> <p><b>When transformative service design meets behavioral economics: Staged mass behavior change</b> S. -T. Yuan, Taiwan</p> <p><b>Panel Discussion: Future transformative service innovations: Making the industrial or societal changes</b> B. Mager, Germany, D. Sangiorgi, UK, M. Barrett, UK, C.-F. Yang, Taiwan, and S. -T. Yuan, Taiwan</p>

<b>67</b>	<b>Cross-Cultural Decision Making in the EU</b> Chair: C. Leitner, Austria
8:00-10:00 Room 3.201 Track HSSE	<p>Supporting decision making and policy through large scale pilots H. Leithold, Austria</p> <p>Innovative ICT solutions in policy modeling – The Centralab approach A. Kö, Hungary</p> <p>Using social media to develop an open government culture in the European Union I. Criado, Spain</p> <p>Cultural issues in linking data across regions - The case of linked spatial data infrastructures A. Ojo, S. Abbas and L. Porwol, Ireland</p> <p>The case of people's assembly in Estonia: A systemic approach to deliberative and crowdsourcing initiatives - A model for Europe? N. Leosk, Italy</p> <p>Best products for the fast followers M. Vermeulen, The Netherlands</p> <p>Challenges for cross-cultural decision making and cross border collaboration in the EU C. Leitner, Austria</p>
<b>68</b>	<b>Human Aspects of Knowledge Based Enterprises II</b> Chair: A. Fast-Berglund, Sweden
8:00-10:00 Room 3.202 Track MFG	<p>Entrepreneurship in SMEs J. Trzcielinska, Poland</p> <p>Strategic focus on agility S. Trzcielinski, Poland</p> <p>The changes of human capital structure in condition of adaptation the enterprises' management systems into knowledge based economy requirements H. Wlodarkiewicz-Klimek, Poland</p> <p>Methods of staffing process in agile enterprises A. Branowska, Poland</p> <p>Understanding and supporting decision makers in quality management of production networks R. Philipsen, P. Brauner, S. Stiller, S. Runge, R. Schmitt and M. Ziefle, Germany</p> <p>Flexible ICT-tools for knowledge sharing and assembly support A. Fast-Berglund and E. Blom, Sweden</p>
<b>69</b>	<b>Safety Management Systems as Part of the Competitive Management Systems II</b> Co-Chairs: H. Pacaiova and J. Sinay, Slovakia
8:00-10:00 Room 2.114 Track PEHF	<p>Risk assessment for LPG storage A. Bernatik and I. Bartlova, Czech Republic</p> <p>RBI - support tool for industry risk prevention H. Pacaiova, M. Oravec and J. Kolesar, Slovakia</p> <p>Applied management system of safety in practice during construction of power plant I. Pekár, Slovakia</p> <p>Method for fidelity evaluation of nuclear power plant simulators from the human factors point of view J. Laarni and H. Koskinen, Finland</p> <p>A system for automated live ergonomics assessment and its applications in manufacturing T Nguyen, M. Kleinsorge and J. Krüger, Germany</p> <p>Safety assessment of pesticide-barrier protection properties of high-tech material agricultural safety clothing: In vivo-test using the artificial skin R. -H. Kim and S. -S. Choi, S. Korea</p>

<b>70</b>	<b>Risk and Driving</b> Chair: D. Soole, Australia
<b>Track RR</b>	Being “always on” in vehicles – The use of apps while driving bears risks B. Franz, I. Zöller, M. Kauer, L. Schulz, B. Abendroth and R. Bruder, Germany
<b>Room 0.310</b>	Analysis of factors associated with speeding among road users in Malaysia N. Isah and N. Fadilah Mohd Soid, Malaysia
<b>8:00-10:00</b>	Comparing road users with high and low perceived risk of being caught for traffic infringement in Malaysia N. Soid and N. Isah, Malaysia
	Bibliometric analysis of risks in the transportation sector: Ergonomic considerations E. Ferreira, L.Vergara and A. Coelho, Brazil
	A review of international speed enforcement policies and practices: Evidence-based recommendations for best practice D. Soole, B. Watson and J. Fleiter, Australia
<b>71</b>	<b>Driver State Detection and Simulated Driving: Drawbacks and Opportunities</b> Co-Chairs: H. Rashid, Malaysia, and K. Bengler, Germany
<b>Track RR</b>	Evolution of a new adjustable motorcycle test rig design for measuring motorcyclist fatigue during prolonged riding H. Rashid, M. Ma'arof, A. Omar and S. Abdullah, Malaysia
<b>Room 0.313</b>	Motorcycling: Awkward posture is the best posture! M. Ma'arof, H. Rashid, A. Omar, S. Abdullah, I. Ahmad and S. Karim, Malaysia
<b>8:00-10:00</b>	Application of galvanic vestibular stimulation for the evaluation of vehicle settings in a fixed-base driving simulator M. Wiedemann, W. Remlinger and K. Bengler, Germany
	Comparison of real and simulated driving for a static driving simulator M. Krause, L. Yilmaz and K. Bengler, Germany
	How do immersive driving environments influence user performances and experiences? D. Reich, J. Wittkugel and R. Stark, Germany
	“Mirror, mirror on the Wall, tell me...” Speech, video, and further approaches for driver state detection J. Krajewski and S. Schnieder, Germany
	Empirical and technical challenges for driver state detection K. Karrer-Gauss, Germany
<b>72</b>	<b>Safety Related Topics</b> Chair: D. Dejoy, USA
<b>Track SO</b>	Design for process safety critical tasks (minimize human errors) S. Al Rawahi, G. Hampson, I. Randle and C. Smith, Oman
<b>Room 0.307</b>	Development of the management cycle and supporting tool for assisting organizational workers in learning themselves how to detect safety-related problems Y. Tanabe and Y. Okada, Japan
<b>8:00-10:00</b>	An evaluation of human factors on confirmation/check tasks in organizational safety management K. Takahashi, R. Ikeda and Y. Okada, Japan
	A treatment of the safety culture for the safe operation of nuclear power plants Y. - H. Lee, Korea
	The importance of training simulated of situations crisis to the development of competence of emergency teams in launch vehicle aerospace L. Medeiros and R. Carvalho, Brazil
	An analysis of drug administration tasks on safety management in medical centers N. Yamao and Y. Okada, Japan
	Safety climate and firefighting: Focus group results D. Dejoy, A. Dyal and T. Smith, USA

<b>73</b>	<b>Neural Mechanisms of Functioning in the Conceptual Age</b> Chair: M. Fafrowicz, Poland
8:00-10:00 Room 2.115 Track STHESCA	<p><b>Working memory distortions - ST-DRM paradigm</b> M. Fafrowicz, B. Wachowicz, K. Lewandowska, J. Olszewska, A. Grochowska, A. Falkowski and T. Marek, Poland</p> <p><b>The effect of music harmonics and level of expertise on aesthetic judgment of music: An ERP study</b> M. Jańkiewicz, P. Francuz, E. Zabielska-Mendyk, D. Zapala and P. Augustynowicz, Poland</p> <p><b>EEG spectral analysis in sleep deprivation</b> M. Kowrygo, Poland</p> <p><b>The neural basis of intuitive decision making</b> B. Wachowicz, Poland</p> <p><b>The error-related negativity as a neural indicator of error processing and its modulation by individual differences</b> J. Mojsa-Kaja, M. Gawłowska, E. Beldzik, A. Domagalik and T. Marek, Poland</p> <p><b>Creativity and its neural correlates</b> K. Lewandowska, Poland</p>
10:00-10:30 Refreshments will be provided in the foyer on the ground floor	
<b>74</b>	<b>Kansei and Emotions in Design</b> Co-Chairs: C. Bouchard, France, and S. Fukuda, Japan
10:30 - 12:30 Room 2.113 Track APD	<p><b>About the nature of Kansei information</b> C. Bouchard, France, and J. Kim, Korea</p> <p><b>Emotional engineering and PLM</b> S. Fukuda, Japan</p> <p><b>Experience-driven new concept development projects: Differences in context, design activities, and design information conveyed</b> A. Gentner and C. Bouchard, France</p> <p><b>Emergence of self awareness using shared knowledge</b> M. Okubo, Japan</p> <p><b>Gender-sensitive product design by Kansei engineering: An application example using Kano-questionnaire</b> E. -M. Jakobs, B. Trevisan and R. Schmitt, Germany</p> <p><b>Towards humor modelling and facilitation in smart environments</b> A. Nijholt, The Netherlands</p> <p><b>Psychophysiologicaly evaluated visuo-tactile affection using printed fabrics</b> M. Lee and G. Cho, Korea</p>
<b>75</b>	<b>Pleasurable Design on Support Technology for Elderly and Disabled</b> Chair: K. Morimoto, Japan
10:30 - 12:30 Room 2.110 Track APD	<p><b>Effective design of recreation activities in the group home for the elderly with dementia</b> T. Doi, N. Kuwahara and K. Morimoto, Japan</p> <p><b>The development of a mental support system for the elderly living in depopulated areas in Japan</b> N. Kuwahara, T. Airi, T. Asada, Y. Yoshitomi, J. Narumoti and K. Morimoto, Japan</p> <p><b>The effect of salt-shrinkage on the silk union fabrics by continuous treatment system</b> K. -B. Kim, Korea, M.-J. Kim, Japan, and M. -S. Kim, Korea</p> <p><b>Design of studded paving block and bollard using LED for assisting walk of low-vision people at night</b> K. Morimoto, N. Kuwahara, T. Suzuki and Y. Gyoba, Japan</p> <p><b>Concept and development of personal mobility vehicles for indoor use by persons with walking difficulty</b> Y. Sawada, Y. Higashi, K. Morimoto and M. Nishimura, Japan</p> <p><b>Creative design of powered wheelchair based on concept analysis and pleasurable ideas proposed by designers and educators</b> M. Nishimura and K. Morimoto, Japan</p> <p><b>Basic study of mobility of the elderly from the perspective of sensibility value - Public transportation focus</b> R. Tamura, Y. Hirai and N. Elokla, Japan</p>

<b>76</b>	<b>Interaction in 3D Environments and Computerized Training Systems</b> Chair: M. Kozhevnikov, Singapore
10:30 - 12:30 Room 0.101 Track CN	<p>Effects of depth perception cues and display types on presence in the elderly within a 3D virtual store C. -L. Liu and S. -T. Uang, Taiwan</p> <p>The role of three-dimensional immersive environments in assessment and training of spatial skills M. Kozhevnikov and I. Amihai, Singapore, and M. Kozhevnikov, USA</p> <p>Features of collaboration in the VirCa immersive 3D environment B. Hámornik, M. Köles, A. Komlódi, K. Hercegi and L. Izsó, Hungary/USA</p> <p>Training inhibitory control in older drivers: The effect on cognitive ability and driving performance A. Cuenen, E. Jongen, T. Brijs, K. Brijs, R. Ruiter, R. Guerrieri and G. Wets, Belgium</p> <p>The effect of knowledge of results during computerized system training N. Gavish and H. Krisher, Israel</p> <p>Using near infrared spectroscopy to detect mental overload in flight simulator M. Causse and N. Matton, France</p>
<b>77</b>	<b>User-Centered Design I</b> Chair: P. Noriega, Portugal
10:30 - 12:30 Room 1.112 Track ED/EMUSP	<p>Ergonomics versus inclusive design spaces – The case study of The National Tile Museum M. J. Delgado and F. Moreira da Silva, Portugal</p> <p>An approach through painting to XIX century fashion ergonomic issues H. Albuquerque, Portugal</p> <p>Investigation of user experience for luxury hotel websites: A comparison between Chinese and American consumers Z. Shi, X. Lehto, M. Lehto and L. Cai, USA</p> <p>User-centred design of QR store: A case study S. Marino and G. Duca, Italy</p> <p>The system ergonomics and usability as a measurement of the software agents impact to the organization B. Kopka and M. Żytniewski, Poland</p>
<b>78</b>	<b>Ergonomics in the Analysis and Design of Production Systems</b> Chair: E. Martins, Brazil
10:30 - 12:30 Room 1.113 Track ED/EMUSP	<p>Worker's perception on ergonomic workstation analysis: A descriptive study of L-shaped desk usage C. Moriguchi, F. Foltran, J. Gonçalves, K. Takekawa, H. Coury and T. Sato, Brazil</p> <p>Human vs. machine in life science automation: Comparing effectiveness of manual and automated 3-D cell culturing processes R. Lehmann, K. Thurow, R. Stoll and M. Weippert, Germany</p> <p>Build an ergonomics program for an industrial international group J. Thibault and J. Papin, France</p> <p>Ergonomics in industry: Various sectors contributing to the development of a new product A. Tavares, L. Albuquerque, A. Souza and M. Soares, Brazil</p> <p>Time structure analysis in task with manual components of work G. Bedny, W. Karwowski and I. Bedny, USA</p> <p>The influence of the stress of logistics professionals in the organization's results. A theoretical and practical research with specialists of the area A. Viera, G. Balbinotti and L. Vieira, Brazil</p>



79	<b>Ergonomics in the Automotive Industry</b> Chair: L. Ghibaudo, Italy
10:30 - 12:30 Track ED/EMUSP Room 1.111	<p><b>Anthropometric consideration of interior design of city buses</b> A. Zunjić, S. Sofijanić and E. Stojiljković, Serbia</p> <p><b>Pushing and pulling risk assessment in Fiat Group Automobiles industrial reality: Methods to analyze critical operative conditions according to ISO 11228-2 principles</b> D. Germanà, S. Spada, G. Lombardi, A. Baracco, M. Coggiola, F. Sessa and L. Ghibaudo, Italy</p> <p><b>Effects of appearance on perceived comfort of automobile seats</b> T. Erol, C. Diels, J. Shippen, D. Richards and C. Johnson, UK</p> <p><b>Workstation ergonomic analysis: Micro and macro aspects contributions in an automotive industry</b> A. Shinohara, P. Martins, A. Carvalho, F. Dranka, and R. Bitencourt, Brazil</p> <p><b>The benefits of developing people to acquire competences in ergonomics</b> A. Varasquin, G. Balbinotti, L. Vieira and N. Colossi, Brazil</p> <p><b>Ergonomic and financial benefits reached through the application of a Kaizen culture: Theoretical and practical study in an automotive industry</b> L. Vieira and G. Balbinotti, Brazil</p> <p><b>A product design process to evaluate users' intrinsic satisfaction— Designing center consoles in cars</b> S. Muraji, T. Yamamoto, M. Kurihara, T. Suzuki and M. Nakanishi, Japan</p>
80	<b>Transport Design</b> Chair: R. Bruder, Germany
10:30 - 12:30 Track ED/EMUSP Room 3.112	<p><b>Effectiveness auditory and vibrotactile cuing of driver attention under noisy environment</b> A. Murata, T. Kuroda and M. Kanbayashi, Japan</p> <p><b>A comparative study of design perceptions of vehicle cluster instruments by designers and non-designers in India and Germany</b> P. Kalenahalli Sudarshan, M. Kauer and R. Bruder, Germany</p> <p><b>Analysis on the design of handle of two wheelers in India keeping women drivers in mind</b> D. Banerjee and L. Korsapati, India</p> <p><b>Maneuvering in intersections - what is the specific challenge for elderly drivers?</b> K. Dahmen-Zimmer and A. Zimmer, Germany</p> <p><b>Synesthetic metering for speed</b> J. Cabral and R. Mendonca, Brazil/Italy</p> <p><b>Matching performance of vehicle icons in graphical and textual</b> C. -F. Chi and R. -S. Dewi, Taiwan</p>
81	<b>International Panel on Patient Handling Ergonomics II</b> Co-Chairs: S. Hignett and M. Fray, UK
10:30 - 12:30 Track HC Room 3.111	<p><b>Work ability and psychosocial factors in healthcare settings: Results from a national study</b> T. Cotrim, C. Silva, V. Amaral, P. Bem-Haja and A. Pereira, Portugal</p> <p><b>Integrated patient risk assessment: Moving and handling, falls, pressure ulcers, continence, dementia</b> S. Hignett, UK, E. Goodwin, UK, and L. Wolf, USA</p> <p><b>Cen / ISO Technical Report (TR) 12296 - 2013 Ergonomics, Manual Handling of People in the Healthcare Sector International consensus</b> E. Waaijer, The Netherlands</p> <p><b>Low-back load for healthcare workers during manual patient handling of obese persons</b> M. Jaeger, C. Jordan, S. Kuhn, B. Beck and A. Luttmann, Germany</p> <p><b>Did the Finnish Ergonomic Patient Handling Passport® evoke changes in vocational education and workplaces?</b> L. Tamminen-Peter and V. Fagerström, Finland</p> <p><b>Design for health and dignity: User and stakeholder involvement in design for urinary continence</b> L. Moody, A. Long and A. McCarthy, UK</p>

<b>82</b>	<b>Practice Based Innovation: Collaborate and Learn in Innovating</b> Co-Chairs: C. Mele and T. Russo-Spena, Italy
10:30 - 12:30	<p><b>Learning about service-orientation in KIBS: Understanding the customer as an active actor</b> K. Kallio, Italy, and I. Lappalainen, Finland</p> <p><b>Interactive technologies to enhance collaborative practice for innocation</b> A. Caridà, M. Melia and M. Colurcio, Italy</p> <p><b>Resource integration in innovation processes: A literature review</b> M. Colurcio, B. Edvardsson and A. Caridà, Italy/Sweden</p> <p><b>Collaborative practices in innovation ecosystem</b> T. Russo-Spena, M. Tregua and F. Bifulco, Italy</p> <p><b>Knowledge and learning in practice-based studies: An integrated perspective to understand innovation</b> T. Russo-Spena, K. Kallio, I. Lappalainen and C. Mele, Italy/Finland</p> <p><b>Living labs for smart innovation: A user-centric approach</b> F. Bifulco, M. Tregua and C. Amitrano, Italy</p>
<b>83</b>	<b>Quality Management in Service Engineering</b> Chair: E. Cudney, USA
10:30 - 12:30	<p><b>Applying the House of Quality to the new-building construction commissioning process</b> W. Gillis and E. Cudney, USA</p> <p><b>Employee and customer cynicism: Strategic engineering of service encounters for effectiveness in environments of high cynicism</b> J. Bailey, USA</p> <p><b>Using Bill of Services (BOS) to achieve effective service delivery</b> G. Vitner, Israel</p> <p><b>Leading change in hospital lean implementation: Top management perceptions and reflection</b> J. McCreery and L. Mazur, USA</p> <p><b>Defining a serviceability architecture framework</b> D. Allen and B. Parkhurst, USA</p>
<b>84</b>	<b>Research on Human Behavior and Decision Making in Smarter Service Systems</b> Co-Chairs: K.-S. Hidaka, Japan, and S. Parikh, India
10:30 - 12:30	<p><b>Consumer behavior in complex service system</b> K. Hidaka, F. Shimizu and S. Nishikori, Japan</p> <p><b>A Study on BEMS based on behavioral economics for small and medium-sized buildings</b> A. Nishino, M. Suzuki, Y. Inokuchi and S. Hashimoto, Japan</p> <p><b>Discourse analysis of voice-based computer-mediated communication in distributed work</b> T. Chino, K. Torii, N. Uchihiro, K. Hiraishi, Y. Hirabayashi and T. Sugihara, Japan</p> <p><b>An operational, ethics centric model of a service organization</b> S. Parikh, India</p> <p><b>Re-thinking the concept of ethics for public corporate identity</b> P. Picicocchi, C. Bassano and M. Galvin, Italy</p> <p><b>Shaping integrity ambassadors</b> J. McCormack, USA</p> <p><b>Towards the inclusion of executive coaching concerns for the improvement of training in service development companies</b> E. Irrazabal, J. Vara, J. Garzás, E. Marcos and M. López-Sanz, Spain</p>

<b>85</b>	<b>Communication and Cognitive Performances</b> Co-Chairs: K. Øvergård, Norway, and S. Nazir, Italy
<b>Track MAR</b>	<b>Voice and text messaging in ship communication</b> T. Porathe, P. Eklund and H. Goransson, Sweden
<b>Room 0.105</b>	<b>Using eye-tracking data and mouse cursor location to examine visual alerting in a multi-display environment</b> J. Crebolder and J. Salmon, Canada
<b>10:30 - 12:30</b>	<b>Concept for the integration of information received via communication equipment with onboard navigational systems</b> E. Holder, Germany, F. Motz, Germany, H. Horoufchin, Germany, and M. Baldauf, Sweden
	<b>The impact of motion induced interruptions on cognitive performance</b> A. Hunter, N. Bourgeois and R. Langlois, Canada
	<b>On common ground at sea: The proactive negotiation for channel navigation</b> A. Kataria and G. Praetorius, Sweden
	<b>Seeking harmony in shore-based unmanned ship handling – From the perspective of human factors, what is the difference we need to focus on from being onboard to onshore?</b> Y. Man, M. Lundh and T. Porathe, Sweden
	<b>Characteristics of dynamic positioning operators' situation awareness and decision making during critical incidents in maritime operations</b> K. Øvergård, L. Soerensen, T. Martinsen and S. Nazir, Norway/Italy
<b>86</b>	<b>Ergonomics in Industrial Quality and Safety</b> Co-Chairs: S.-L. Hwang and Y. -L. Lee, Taiwan
<b>Track MFG</b>	<b>Usability study of auditory CAPTCHA</b> C. -H. Lee and Y. -L. Lee, Taiwan
<b>Room 3.201</b>	<b>The effects of auditory feedback on websites: users perception</b> S. -H. Li and S. -L. Hwang, Taiwan
<b>10:30 - 12:30</b>	<b>Auditory interface improvement of in-vehicle speech interaction system</b> H. -N. Hu and S. -L. Hwang, Taiwan
	<b>A latent human error model in aviation maintenance tasks</b> J. -Y. Tu, J.-L. Yong and S. -L. Hwang, Taiwan
	<b>A modified failure mode and effects analysis for in-vehicle speech interaction systems</b> H. -C. Chen and S. -L. Hwang, Taiwan
	<b>Effects of display technique, image content, and environment on user performance of auto-stereoscopic mobile phones</b> P. -H. Lin and H. -S. Jhang, Taiwan
	<b>The learning effect of hand dexterity between old and young people</b> Y. -C. Shih and I. -L. Cheng, Taiwan
<b>87</b>	<b>Work-Physiological Approaches in Physical Ergonomics</b> Co-Chairs: H. Strasser, Germany, and B. Das, Canada
<b>Track PEHF</b>	<b>Rollermouse vs. standard computer mouse – Electromyographic and subjective assessment of the usability in applications with graphical user interfaces</b> K. Kluth and E. Keller, Germany
<b>Room 3.202</b>	<b>Assessment of the ergonomic quality of European screwdrivers</b> M. Penzkofer, A. Henke and K. Kluth, Germany
<b>10:30 - 12:30</b>	<b>Ergonomic evaluation of pressure limits for the fire water supply for physically feasible and safe indoor fire-fighting</b> S. Groos and K. Kluth, Germany
	<b>Physical strength and hand dimensions of population sample: Results and differences in age and gender</b> A. Klussmann, C. Muehlemeyer, P. Serafin, I. Levchuk, K. Lang and H. Gebhardt, Germany
	<b>Anthropometric considerations for designing a test finger to avoid electrical and mechanical hazards</b> H. Gebhardt, C. Muehlemeyer, K. Lang, B. Schlutter and A. Vomberg, Germany
	<b>Physical stress and disorders of the hand-arm system at construction workers</b> B. Hartmann, Germany
	<b>Advances in human strength measurement and modeling in workspace</b> B. Das, Canada

88	<b>Tools and Applicative Experiences by CPM International School for WMSDs Prevention</b> Chair: E. Occhipinti, Italy
10:30 - 12:30 Track PEHF Room 2.114	<p>Trends in management of risks associated to biomechanical overload based on new ISO technical report  E. Occhipinti and D. Colombini, Italy</p> <p>A simple tool for preliminary hazard identification and quick assessment: Applicative experiences  J. -J. Atain-Kouadio, L. Claudon, P. Mazière, J.-P. Meyer, F. Navier, J. Parachini, E. Turpin-Legendre, J.-J. Verdebout and J. -P. Zana, France</p> <p>The study of work situations with exposure to multiple tasks in annual cycle: Practical experiences in the field  D. Colombini and E. Occhipinti, Italy</p> <p>Patient's manual handling: ISO TR 12296 and Mapo method  N. Battevi, O. Menoni and S. Cairolì, Italy</p> <p>Prevention of WMSDs from biomechanical overload in agriculture: A project by Italian regions  G. Di Leone, A. Del Rosso and F. Longo, Italy</p>
89	<b>Highly Automated Driving - Aspects of Driver Vehicle Interaction II</b> Co-Chairs: R. Happee and J. de Winter, The Netherlands, and K. Bengler, Germany
10:30 - 12:30 Track RR Room 0.310	<p>Road users' comprehension of automated driverless vehicles  N. Merat, T. Louw, A. Schieben and M. Dziennus, UK</p> <p>Guidelines for the interaction design of ADAS and highly automated vehicles: Overview on information, warning and intervention strategies developed within the EU project interactive  M. Dziennus, E. Johansson, T. Hesse, A. Schieben, M. Brockmann, A. Rambaldini, F. Stordiau, I. Esberg, C. Larsson, P. Larsson, C. Zoldan and A. Masala, Sweden</p> <p>Hands and feet free driving: Ready or Not?  V. Banks and N. Stanton, UK</p> <p>Taking over control from highly automated vehicles  C. Gold and K. Bengler, Germany</p> <p>The "Methods for Designing Future Autonomous Systems" (MODAS) project: Developing the cab for a highly autonomous truck  S. Krupenia, A. Selmarker, J. Fagerlönner, K. Delsing, A. Jansson, B. Sandblad and C. Grane, Sweden</p> <p>End-users' acceptance and use of adaptive cruise control systems  N. Strand, M. Karlsson and L. Nilsson, Sweden</p>
90	<b>Human Mobility Increase as a Key Element in Designing Innovative Transportation Systems</b> Chair: I. Grabarek, Poland
10:30 - 12:30 Track RR Room 0.313	<p>Ergonomic issues in design of innovative means of transportation and transportation systems  I. Grabarek and W. Choromanski, Poland</p> <p>Lever wheelchair for disabled people: An answer to the increasing demand for wheelchair mobility  K. Fiok and W. Choromanski, Poland</p> <p>Analysis of ride comfort on the stairs climbing wheelchair  G. Dobrzynski, W. Choromański and I. Grabarek, Poland</p> <p>Simulation study of wheelchair's maneuverability  G. Dobrzynski, W. Choromański and K. Fiok, Poland</p> <p>Study of likelihood of car accident among homonymous hemianopsia patients: An ergonomic solution  M. S. Alavi and H. Naeini, Iran</p> <p>Traffic fatalities and serious injuries in Europe – A study of association with cultural, demographic and income variables  I. Barata and D. Coelho, Portugal</p>

<b>91</b>	<b>Macroergonomic Innovations I</b> Chair: L. Pacholski, Poland
10:30 - 12:30 Track SO Room 0.307	<p>Macroergonomic premises of organizational innovations in business corporations L. Pacholski, Poland</p> <p>Influence of macroergonomic factors on production systems organizing in automotive industry A. Stasiuk-Piekarska, M. Drzewiecka and G. Dahlke, Poland</p> <p>The use of web application "Mobilne Miasto" (Mobile City) in the conveyance of information about urban space in the system human factor – technology M. Golinski, Poland</p> <p>Macroergonomics in the design of the quality of work environment and of human life: Examples of practical applications A. Jasiak, Poland</p> <p>Efficient control tool of work system resources in the macro-ergonomic context M. Sławińska and M. Butlewski, Poland</p> <p>How quality management supports sustainable development M. Jasiulewicz-Kaczmarek, Poland</p>
<b>92</b>	<b>Knowledge Transfer in the Interdisciplinary Development of Products and Services</b> Chair: T. Winkler, Poland
10:30 - 12:30 Track STHESCA Room 2.115	<p>The interdisciplinary development of products: A case study from industry and health care T. Winkler, Poland</p> <p>E-learning methods in the knowledge transfer between surgical tools manufacturers and hospital. A case study from laparoscopy J. Bartnicka, Poland</p> <p>Knowledge transfer in the lifecycle of medical tools and equipment K. Mleczko and T. Winkler, Poland</p> <p>The role of emerging and converging technologies in the coming era of abundance P. Szewczyk, Poland</p> <p>Digital migration: Characteristics, challenges and educational perspectives V. Zuzevčiūtė, Lithuania</p>
12:30-13:30 Lunch break in the foyer on the ground floor Light lunches will be provided for all registered conference participants.	
<b>93</b>	<b>Behavioral and Physiological Indicators of Human Performance</b> Chair: S. Schmer-Galunder, USA
13:30-15:30 Track CN Room 2.113	<p>What eye tracking can reveal about dynamic decision-making F. Vachon and S. Tremblay, Canada</p> <p>Learning and recognition of facial images without awareness T. Ott and S. Schmer-Galunder, USA</p> <p>Eye tracking study: Overhead menu board and its effect on consumer purchase decision A. Magadia, K. Medel, S. Reyes and L. Grepo, Philippines</p> <p>Resource allocation strategies in multitasking after switch in task priorities N. Matton, P. Paubel, J. Cegarra and E. Raufaste, France</p> <p>Effects of inhaling essential oil on decreasing mental fatigue: A physiological indices study S. -Y. Cheng, Taiwan</p> <p>Ergonomics and teaching: An investigation about Brazilian teacher's stress I. de Medeiros Costa and R. Carvalho, Brazil</p>

94	<b>Digital Human Modeling and Human Factors</b> Co-Chairs: L. Fritzsche, Germany, and E. Fallon, Ireland
13:30-15:30 Room 2.110 Track DHMHF	<p>Assessing the precision of anthropometric measurements: A Six Sigma approach D. Hale and E. Fallon, Ireland</p> <p>Research of motivation management method for project members H. Yajima, Japan</p> <p>Interactive simulation and ergonomics assessment of manual work with EMA – Applications in product development and production planning L. Fritzsche, R. Schönherr and B. Illmann, Germany</p> <p>Influence of fingertip anthropometry and anatomy on mechanical loads during grasping G. Harih, J. Kaljun, and B. Dolšak, Slovenian</p> <p>Human factors modeling from wearable sensed data for evacuation based simulation scenarios L. Paletta, V. Wagner, W. Kallus, H. Schrom-Feiertag, M. Schwarz, M. Pszeida, S. Ladstätter and T. Matyus, Austria</p> <p>A new representing method of human foot anatomical landmark and its application in foot posture data acquisition K. Zhao, A. Luximon, B. Ganesan and C. Chan, Hong Kong</p>
95	<b>Ergonomics in Design of Workstations II</b> Chair: S. Hignett, UK
13:30-15:30 Room 0.101 Track ED/EMUSP	<p>Ergonomics aspects and productivity in a production line: A case study J. Camarotto and R. Vanalle, Brazil</p> <p>Work ergonomic analysis and change laboratory: Similarities and complementarities between interventionist methods R. Vilela, M. Querol, L. Seppänen, F. Lima, R. Mendes, M. Lopes, I. Almeida and J. Filho, Brazil/Finland</p> <p>A library based tool to assist the generative activity in workstation design C. Bergman, D. Högberg, G. Bäckstrand and L. Moestam, Sweden</p> <p>ERGO WORK - Creating the best places to work G. O'Sullivan, Poland, L. Moody and J. Saunders, UK, A. Curin and M. Leber, Slovenia</p> <p>The user-oriented integration of decision support system for tunnel control: Challenges in methodic and design S. Spundflasch and H. Krömker, Germany</p> <p>Designing for future professional activity: Examples from ship bridge operation design M. Wahlström, H. Karvonen, E. Kaasinen and P. Mannonen, Finland</p> <p>Exploring and describing workplace issues for plus size people A. Masson, S. Hignett and D. Gyi, UK</p>
96	<b>Ergonomics and the Virtual and Digital Environment II</b> Chair: C. Falcao, Brazil
13:30-15:30 Room 1.112 Track ED/EMUSP	<p>Visual comfort and human wellbeing at coworking environs C. C. Gomes and S. Preto, Portugal</p> <p>Intangible cultural heritage and digital communications C. C. Caramelo Gomes and M. L. Costa, Portugal</p> <p>Comfort optimization method for work equipment based on a digital hand model P. Gust and A. Ünlü, Germany</p> <p>Wearable devices: A design approach through biodesign and ergonomics M. Canina, Italy</p> <p>Accessibility passport model for designing inclusive games – A requirement engineering viewpoint M. Mustaquim, Sweden</p> <p>Software interfaces of the Jaco Robotic Arm: Results of a focus group N. Vigouroux, D. Sauzin, F. Vella, C. Petit, V. Leynaert, M. Alecki and C. Fattal, France</p> <p>Nonlinear dynamical analysis of eye movement characteristics A. Murata, T. Matsuura and M. Moriwaka, Japan</p>



<b>97</b>	<b>Ergonomics, Product and Work Design I</b> Chair: E. Martins, Brazil
<b>13:30-15:30</b> <b>Room 1.113</b> <b>Track ED/EMUSP</b>	<p>An ergonomic vision of actors and resources in distance education environment I. Martins, E. Martins and M. Soares, Brazil</p> <p>Development of e-Learning system for network education and visualization C. Kawanishi and Y. Imai, Japan</p> <p>Anthropometry as a resource in the learning process of ergonomics / human factors &amp; design L. Saenz, A. Lotero, E. Cadavid and G. Sevilla, Colombia</p> <p>Space usability study from the point of view of the teacher in public schools from 1st to 5th grade in the city of Bauru, SP, Brazil A. Caversan and J. Plácido da Silva, Brazil</p> <p>Influence of the school furniture design on the body posture of college students A. Tirloni, D. Reis, M. Soares and A. Moro, Brazil</p> <p>Ergonomic design for learning place: Impact on health and cognition O. Burov, M. Pertsev and A. Tsarik, Ukraine</p> <p>Proposal of a method to clarify customer needs using HI (human interface) patterns R. Okubo, Y. Tanikawa and S. Fukuzumi, Japan</p>
<b>98</b>	<b>Website and Network Design and Evaluation</b> Chair: L. Prado-León, Mexico
<b>13:30-15:30</b> <b>Room 1.111</b> <b>Track ED/EMUSP</b>	<p>Analysis of user experience and usability of “Banco do Brasil” F. Fernandes and L. Paschoarelli, Brazil</p> <p>Usability evaluation of engineering research center for compact efficient fluid power website D. Davis, O. Leak and S. Jiang, USA</p> <p>Influence of web usability as stimulus to generate positive emotions I. Landa-Avila and L. Prado-León, Mexico</p> <p>Usability test for a bank service website R. CossyLeon-Perez, B. Gallardo-Vazquez and M. Soares, Mexico/Brazil</p> <p>Everyone publishes on the Web, but few do it properly – a need for a revision on design modules curriculum C. Gomes and M. Costa, Portugal</p> <p>Research of website interaction design based on UX F. Guo, Q.-X. Qu, X.-Y. Zhang, W.-T. Ye, H. Wang and X. -S. Wang, China</p> <p>Terminology matters: About labeling used in the user interfaces of home networking devices A. Moallem, USA</p>
<b>99</b>	<b>Healthcare Information Systems</b> Chair: M. Kimura, Japan
<b>13:30-15:30</b> <b>Room 3.112</b> <b>Track HC</b>	<p>Human factors and ergonomics in mobile computing for emergency medical services T. Mentler and M. Herczeg, Germany</p> <p>The needs of smart medication reminder for elderly people with chronic conditions F. -H. Huang, Taiwan</p> <p>A proposal of the method to identify adverse effects based on topic maps K. Yokokawa, M. Kimura, M. Ohkura and F. Tsuchiya, Japan</p> <p>Using high reliability and 'lean' thinking to drive excellence in patient safety: A case study from radiation oncology L. Mazur, B. Chera, R. Adams and L. Marks, USA</p> <p>An in-patient nursing documentation application for smart phones N. Rodriguez, J. Borges, I. Nájera, J. Marrero, M. Aleman and C. Rivera, Puerto Rico</p> <p>To reduce error in health care knowing is not enough S. Bogner, USA</p>

<b>100</b>	<b>Systems Engineering for Designing and Delivering Smarter Products</b> Co-Chairs: M. Guvenc and K. Cakmak, Turkey
13:30-15:30 Room 3.111 Track HFSSE	<p>Safety analysis from bottom to top and top to bottom K. Çakmak, Turkey</p> <p>Agile systems engineering B. Douglas and K. Cakmak, Turkey</p> <p>Model-based systems engineering: Evolution or revolution? B. Brown, USA</p> <p>The Systems Modeling Language and its application to railway signaling systems A. Lapping and K. Cakmak, UK/Turkey</p> <p>Integration of human factors' aspects into multilayered reachback operations via IRIS Integrated Reachback Information System S. Pickl, Germany</p> <p>Unboxing trust in cloud computing. A survey study N. Backhaus and S. Brandenburg, Germany</p>
<b>101</b>	<b>The Education of Service Innovators: Bridging the Gaps Between Business and Academia</b> Co-Chairs: J. Spohrer, USA, and Y. Sawatani, Japan
13:30-15:30 Room 0.304 Track HSSE	<p>Co-creation of values in designing services through a custom of meta-cognition M. Suwa, H. Nakashima and H. Fujii, Japan</p> <p>Designing service system prototype workshops Y. Sawatani, Japan</p> <p>Developing a value co-creation measurement on financial industry K. Toya and H. Kitanaka, Japan</p> <p>A dynamic model based on customer learning speed H. Masuda and Y. Hara, Japan</p> <p>Educating service innovators J. Spohrer, USA</p> <p>Integration of research, education and practice Y. Sawatani, Japan</p> <p>Service science education in management of technology K. Hidaka, Japan</p>
<b>102</b>	<b>Context-Related Service: Lessons in Humanisms</b> Co-Chairs: F. Davoli and F. Lavagetto, Italy and U. Narain, India
13:30-15:30 Room 0.102 Track HSSE	<p>Cooperative body-worn sensor network for efficient healthcare and activity monitoring applications R. Di Bari, Q. Abbasi and A. Alomainy, UK/Qatar</p> <p>Detection of satisfaction for the services by body motion wave revealing unconscious responses reflecting activities of autonomic nervous system H. Okawai, T. Yajima, J. Wada and M. Takashima, Japan</p> <p>Estimating skills of waiting staff of a restaurant based on behavior sensing and POS data analysis: A case study in a Japanese cuisine restaurant T. Fukuhara, R. Tenmoku, R. Ueoka, T. Okuma and T. Kurata, Japan</p> <p>Proposal of quality study for nursing-care service H. Miwa, K. Watanabe, T. Fukuhara, T. Nagao and T. Nishimura, Japan</p> <p>Big data, analytics, and the human in the middle D. Allen, USA</p> <p>Case study: Designing the service experience for big data discovery C. Kieliszewski, L. Anderson and S. Stucky, USA</p> <p>The not so small price of big data S. Commuri and U. Narain, India</p>

103	<b>Organizational Safety</b> Chair: M. Neves, Portugal
13:30-15:30 Track SMHF Room 0.104	<p>Safety leadership competence and organizational safety performance S. Tappura and N. Nenonen, Finland</p> <p>Human and organizational factors contribution to the occurrence of major accidents using offshore accidents as a case study H. Abraha and J. Liyanage, Norway</p> <p>The integrated behavioral program G. Bellone and S. Reid, Argentina</p> <p>Main factors for an occupational health and safety management system for Mexican manufacturing companies L. Cuautle and G. Beristain, Mexico</p> <p>Safety and health at work as a factor of competitiveness of organizations M. Neves, Portugal</p>
104	<b>Perception and Control Issues in the Design of Advanced Driving Assistance Systems</b> Co-Chairs: F. Mars, France and N. Merat, UK,
13:30-15:30 Track RR Room 0.105	<p>The power of haptic guidance D. Abbink, The Netherlands</p> <p>Adaptation of sensorimotor and cognitive control to haptic shared control of the steering wheel F. Mars, M. Deroo and C. Charron, France</p> <p>Effects of advanced information on lane change performance in older and younger drivers G. Rinkenauer, Germany</p> <p>Augmented reality head-up-display for advanced driver assistance systems: A driving simulation study L. Halit, A. Kemeny, H. Mohellebi, S. Garbaya, F. Merienne, S. Michelin and V. Albaut, France</p> <p>Eco-driving with Electric cars: Effect of continuous and on-demand feedback on driving behavior and safety S. Beloufa, B. Vailleur, J.-M. Boucheix, A. Kemeny and F. Mérienne, France</p> <p>Effects of interface complexity of head-up display on driver's driving performance and self-perception S. Li, D. Wang and W. Zhang, China</p> <p>Influence of information flows on the results of a driver's activity in the system "driver – car – road – environment" V. Dolia, S. Kobiakov and I. Afanasieva, Ukraine</p>
105	<b>Transport Data and Analysis</b> Co-Chairs: G. Walker, UK, and K. Brijs, Belgium
13:30-15:30 Track RR Room 3.201	<p>Deconstructing the whole journey traveller experience A. Woodcock and J. Osmond, UK</p> <p>Comparative analysis of driving maneuvers using 3D body posture data A. Kondyli, V. Sisiopiku, L. Zhao and A. Barmpoutis, USA</p> <p>A psycho-physiological multi-measure approach to assess cognitive load while driving S. Ruff and M. Rötting, Germany</p> <p>Driving behavior at intersections equipped with red light cameras – A Monte Carlo simulation based on driving simulator data J. Cornu, K. Brijs, S. Daniels, T. Brijs, E. Hermans, and G. Wets, Belgium</p> <p>Electric vehicle drivers overcome range anxiety prior to their first trip S. Mansbridge, M. Burgess and M. Harris, UK</p> <p>Parking behaviours for inductive charging S. Birrell, D. Wilson, G. Dhadyalla, C. P. Yang, A. McGordon and P. Jennings, UK</p>

<b>106</b>	<b>Ergonomics and Material Environment Design</b> Chair: A. Bonenberg, Poland
Track HFSI Room 3.202 13:30-15:30	<p>Worker fatigue. An overview of subjective and objective methods of measurement M. Kuliński, J. Koszela-Kulińska and K. Jach, Poland</p> <p>The influence of the brain lateralization on preferences related to the simple digital signage message J. Grobelny, R. Michalski, K. Świątek-Dąbek and M. Marciniak, Poland</p> <p>The subjective analysis of the main workload dimensions in the company from the transportation industry R. Michalski and K. Jach, Poland</p> <p>The Subjective Overall Workload Assessment (SOWA) method as a tool for effectiveness evaluation of ergonomic training in a food processing industry K. Jach, R. Michalski and M. Kuliński, Poland</p> <p>Ergonomics in Polish outpatient clinics A. Gębczyńska-Janowicz, Poland</p>
<b>107</b>	<b>Interior Design II</b> Chair: P. Vink, The Netherlands
Track SO Room 2.114 13:30-15:30	<p>Adaptive customization - Value creation by adaptive lighting in the car interior A. Wagner, U. Kilincsoy, M. Reitneir and P. Vink, Germany/The Netherlands</p> <p>Ergonomic aspects of an intelligent building K. Strumiłło, Poland</p> <p>Can design teachers evaluate students' products from an end-user point-of-view? B. Kok, The Netherlands/Belgium, K. Slegers, Belgium, and P. Vink, The Netherlands</p> <p>Evaluation workstation ergonomic operator control room of a factory of chemicals G. Araújo and M. Soares, Brazil</p> <p>Cerebellar diseases and occupation A. Ranavolo, M. Serrao, C. Casali, M. Ghelli, A. Silvetti, F. Pierelli, A. Filla, A. Roca, G. Bianchi, F. Forzano, S. Mari, S. Iavicoli and F. Draicchio, Italy</p> <p>Comparative study of noise and thermal load levels by general and individual sampling S. Kolodziej and E. Cruz, Argentina</p> <p>Human factors of multiscreen pc workplace at 24/7 security and monitoring tasks B. Povlotsky, USA</p>
<b>108</b>	<b>Macroergonomic Innovations II</b> Chair: L. Pacholski, Poland
Track SO Room 0.310 13:30-15:30	<p>Macroergonomic improvement the development of agri-food sector company M. Szczuka, Poland</p> <p>Macroergonomic model of quality of life of elderly employees for design purposes M. Butlewski, E. Tytyk and K. Wrobel, Poland</p> <p>Need of safety integration in robust design B. Mrugalska, Poland</p> <p>Occupational risk in improving the quality of working conditions A. Górny, Poland</p> <p>Analysis of psychosocial risk in the context of the objectives of macroergonomics J. Sadłowska-Wrzesinska, Poland</p> <p>Humanization of work in Project Management A. Borucki, Poland</p>

109	<b>Ergonomic Education in the Conceptual Age and Ageing Population</b> Co-Chairs: A. Woodcock, UK, and C. Barsky, USA
13:30-15:30 Room 0313 Track STHESCA	<p><b>Working into later life: A tool to facilitate co-designing healthy work environments</b>                      D. Gyi, E. Y. Gosling, A. Gibb and R. Haslam, UK</p> <p><b>The journey to ergonomic education</b>                      C. Barsky, USA</p> <p><b>Traditions of Polish teaching before WWII</b>                      M. Ekiel-Jezewska, Poland</p> <p><b>Ergonomic education today</b>                      S. Glazek, Poland, R. Kostkiewicz, Poland, and C. Barsky, USA</p> <p><b>Ethical challenges of the occupational safety technician</b>                      V. Coutinho, J. Sebastião, R. Filipe and M. Corticeiro Neves, Portugal</p> <p><b>Heads in the sand: The failure to engage with our ageing society</b>                      A. Woodcock, UK</p>
15:30-16:00 Refreshments will be provided in the foyer on the ground floor	
110	<b>Methods for Emotional Design</b> Chair: W. Chung, Canada
16:00-18:00 Room 2.113 Track APD	<p><b>Study on preferred gestural interaction of playing music for wrist wearable devices</b>                      E. -C. Jung, Y.-J. Jang and W. -J. Lee, Korea</p> <p><b>Industrial design modeling for a WiFi base station device</b>                      S. L. Choong, K. Nazri Abdul Wahib, M. Nizam Najmuddin and S. Busri, Malaysia</p> <p><b>Exploring the role of emotion in the design cycle</b>                      A. G. Ho, Hong Kong</p> <p><b>Emotion-on-chip for affective engineering and pleasurable design</b>                      H. -I. Jung, Korea</p> <p><b>Transmission of emotional contents embedded in ceramic coating tiles that present tactile texture surfaces</b>                      L. Nascimento, Brazil</p>
111	<b>Design Methods and Techniques</b> Chair: K. Gielo-Perczak, USA
16:00-18:00 Room 2.110 Track ED/EMUSP	<p><b>Data gathering for ergonomic and design evaluations: Issues and pitfalls</b>                      F. Campos, D. Lincoln, M. Neves, W. Correia and M. Soares, Brazil</p> <p><b>PLT (Persona Logical Thinking): A method to generate user requirements for multidisciplinary design teams</b>                      J. Barré, S. Buisine and A. Aoussat, France</p> <p><b>Application of a user-centred design approach to the definition of a knowledge base development tool</b>                      M. Simões-Marques and I. Nunes, Portugal</p> <p><b>Development of a method based on ergonomics activity analysis in order to enhance knowledge and skills in product design comfort</b>                      F. Mujica and L. Sznclwar, Brazil</p> <p><b>Multi-method systems modeling and analysis: Is it possible to apply holistic design, linking the physical and cognitive aspects?</b>                      K. Gielo-Perczak, USA</p> <p><b>Similar methodological analysis involving the product experience</b>                      C. Silva and M. Okimoto, Brazil</p> <p><b>Prototype-centered design: For a more interactive design process</b>                      M. Alcoforado, J. Plácido da Silva and L. Paschoarelli, Brazil</p>

112	<b>Ergonomic Product Design</b> Co-Chairs: S. Kamp, Germany, and S. Salerno, Italy
16:00-18:00 Room 0.101 Track ED/EMUSP	<p><b>Usability evaluation of the MOSES (Monitoring and Operating System for Emergency Services Tablet)</b>                      S. Carillo, N. Marinas, R. Relator and L. Grepo, Philippines</p> <p><b>Usability-based mobile phone selection for communications in emergency situations</b>                      I. Nunes, D. Patriarca and A. Matos, Portugal</p> <p><b>Ergonomic design for young users of mobile phones</b>                      C. Giliberti, I. Figà and S. Salerno, Italy</p> <p><b>Ergonomic engineering of a mobile walker</b>                      S. Kamp, T. Spitz, U. Müller and N. Feller, Germany</p> <p><b>Surprise as a design strategy in goal-oriented mobile applications</b>                      A. Gross, Germany, and J. Silvennoinen, Finland</p> <p><b>An application of ballistic movement method for evaluating the effects of movement direction using a standard mouse</b>                      R. Lin, Y.-C. Tsai, C.-Y. Huang and M. -H. Lin, Taiwan</p> <p><b>User experience - An opinion with focus on new technologies</b>                      L. Machado and L. Vergara, Brazil</p>
113	<b>Ergonomics, Cognition and Aviation</b> Chair: E. Martins, Brazil
16:00-18:00 Room 1.112 Track ED/EMUSP	<p><b>Ergonomic design thinking - Approaching ergonomics through a new way of performing innovation in the workplace</b>                      M. Santos and M. Soares, Brazil</p> <p><b>An expert system approach for ergonomic evaluation of advanced manufacturing technology</b>                      A. Maldonado-Macías, A. Realyvasquez Vargas, J. García-Alcaraz, A. Alvarado, J. Hernández, Mexico</p> <p><b>The knowledge changes in the behaviour under the focus of cognitive ergonomics</b>                      S. Rodrigues, E. Martins and M. Soares, Brazil</p> <p><b>Ergonomics and cognition in flight manual and automated</b>                      E. Martins, I. Martins and M. Soares, Brazil</p> <p><b>The fault tree in aviation-Always ends in humans</b>                      E. Martins, I. Martins and M. Soares, Brazil</p> <p><b>Physiological workload response of laboratory staff during simulated life science processes</b>                      M. Weippert, A. Rieger, R. Lehmann, W. Zhang, K. Thurow and R. Stoll, Germany</p>
114	<b>Seating Ergonomics and Body Posture</b> Chair: J. Waldron, Colombia
16:00-18:00 Room 1.113 Track ED/EMUSP	<p><b>Study of body postures adopted in public spaces to define furniture design principles</b>                      J. Waldron, L. Olaya, A. Munoz and M. Giraldo, Colombia</p> <p><b>Ergonomic evaluation of workstation furniture for wheelchair users with reference to Brazilian Standards ABNT NBR-9050 and NR-17 on Ergonomics</b>                      C. Santos, P. Neto and R. Santos, Brazil</p> <p><b>Classification of seated postures</b>                      D. Radu Moga, Romania</p> <p><b>Incidence of low back pain in relation to sedentary workstation design and anthropometric assessments</b>                      S. Chaiklieng, P. Suggaravetsiri and J. Stewart, Thailand/New Zealand</p> <p><b>Impact of the seat on aircraft passenger comfort experience in the cabin interior</b>                      N. Ahmadpour, J.-M. Robert and G. Lindgaard, Canada</p>



<b>115</b>	<b>Decision Support in Healthcare Environments</b> Chair: S. Bogner, USA
16:00-18:00 Room 1.111 Track HC	<p>Collaboration expertise in health care - Mapping the mosaic of shared work experience, transactive memory system and performance J. Kiesewetter, F. Semmelies, B. Saravo, M. Fischer and B. Wershofen, Germany</p> <p>A fuzzy AHP approach for risk assessment on family health care strategy A. Jatoba, H. Bellas, M. Vidal and P. Carvalho, Brazil</p> <p>Identifying causal factors for medication and medical device-related adverse clinical incidents using a human factors framework R. Mitchell, A. Williamson and B. Molesworth, Australia</p> <p>The impact of computerized decision support on prescribing: Context matters M. Baysari, S. Jaensch, J. Westbrook and R. Day, Australia</p> <p>Analysing the differences of resilience between experts and novices in order to increase medical safety and quality Y. Maeda, S. Suzuki and A. Komatsubara, Japan</p> <p>Medical factors of brain tumor delineation in radiotherapy for software design A. Aselmaa, R. Goossens, B. Rowland, A. Laprie, Y. Song and A. Freudenthal, The Netherlands/France</p> <p>Exploring macrocognitive healthcare work: Discovering seeds for design guidelines for clinical decision support B. Moon, R. Hoffman, M. Lacroix, E. Fry and A. Miller, USA</p>
<b>116</b>	<b>Service Innovation and Governance: Reframing the Concept of Service Innovation</b> Co-Chairs: J. Spohrer, USA, P. Piciocchi and C. Bassano, Italy
16:00-18:00 Room 3.112 Track HSSE	<p>Reframing innovation: Service science &amp; governance J. Spohrer, USA, A. Siano, P. Piciocchi and C. Bassano, Italy</p> <p>The use of electronic banking services in Italy: The case of credit cards A. Amendola, A. Pellecchia and L. Sensini, Italy</p> <p>T-Shape professionals for sustainability growth in complex scenarios: An integrated SSME+D&amp;VSA approach G. Golinelli, A. Siano, P. Piciocchi and C. Bassano, Italy</p> <p>Latent theoretical constructs of service dominant logic L. Cantone and P. Testa, Italy</p> <p>Applying ingredient branding strategy to improve competitiveness in service systems A. Siano, M. Della Volpe, C. Bassano, M. Palazzo and G. Romano, Italy</p> <p>The access rights to communication resources in the smart local service system: First insights G. Golinelli, A. Siano, P. Piciocchi, A. Vollero and F. Conte, Italy</p>
<b>117</b>	<b>Service Fascination</b> Co-Chairs: F. Bodendorf and C. Zagel, Germany
16:00-18:00 Room 3.111 Track HSSE	<p>Success factors and approaches of service fascination – A research framework C. Zagel and F. Bodendorf, Germany</p> <p>The first intelligent store in Brazil A. Albertine and R. Romano, Brazil</p> <p>Interactive user interface design for collaborative case management S. Huber, C. Zagel and F. Bodendorf, Germany</p> <p>Natural human interaction – The future of social media L. Glomann, Germany</p> <p>Me, myself and data - Principles for the design of self-tracking services V. Monogioudis and H. Peres, Germany</p>

118	<b>Human Diversity</b> Chair: M. Musio Sale, Italy
16:00-18:00 Track MAR Room 0.304	<p><b>Human diversity: A limit or an opportunity in the maritime design domain?</b>  G. Di Bucchianico, Italy</p> <p><b>Water-based public transport accessibility. A case study in the internal waters of Northern Italy</b>  S. Ercoli, A. Ratti and S. Piardi, Italy</p> <p><b>DfD_UD_ID_DfA: Design for inclusion in sailing yacht design</b>  J. Lagatta, Italy</p> <p><b>Ergonomics in yacht design for older adults</b>  M. Musio Sale, Italy</p> <p><b>Living aboard with kids and pets</b>  V. Solera, Italy</p>
119	<b>Ergonomic Design of Future Production Systems I</b> Co-Chairs: C. Schlick and J. Bützler, Germany
16:00-18:00 Track MFG Room 0.102	<p><b>Anthropomorphic design of human-robot interaction in assembly cells</b>  S. Kuz, M. Faber, J. Bützler, M. Mayer and C. Schlick, Germany</p> <p><b>Flexible and adaptive planning for human-robot interaction in self-optimizing assembly cells</b>  M. Faber, H. Petruck, S. Kuz, J. Bützler, M. Mayer and C. Schlick, Germany</p> <p><b>Human-oriented design of a cognitive control unit for self-optimizing robotic assembly cells</b>  N. Susanto, M. Mayer, R. Djalois, J. Bützler and C. Schlick, Germany</p> <p><b>Younger beginners, older retirees: Head-mounted displays and demographic change</b>  S. Theis, T. Alexander, M. Wille, A. Mertens and C. Schlick, Germany</p> <p><b>Database for capability-appropriate workplace design in manufacturing industry</b>  D. Möglich, A. Sinn-Behrendt, K. Schaub and R. Bruder, Germany</p> <p><b>Evaluation of different feedback conditions on worker's performance in an augmented reality-based support system for carbon fiber reinforced plastic manufacturing</b>  P. Brauner, L. Bremen, L. Atorf, M. Rast, M. Ziefle and J. Rossmann, Germany</p>
120	<b>Safety Culture and Safety Indicators</b> Chair: P. Arezes, Portugal
16:00-18:00 Track SMHF Room 0.104	<p><b>A test of a systems theory-based incident coding taxonomy for risk managers</b>  N. Goode, P. Salmon, M. Lenné and C. Finch, Australia</p> <p><b>Beyond the barriers: Road construction safety issues from the office and the roadside</b>  A. Debnath, T. Banks, R. Blackman, N. Dovan, N. Haworth and H. Biggs, Australia</p> <p><b>The levels of safety culture</b>  K. Lis, Poland</p> <p><b>Exploring trade-offs between proactive safety indicators</b>  S. Binz and T. Waefer, Switzerland</p> <p><b>Hierarchies of hazard control: A proposal to resolve different lists</b>  R. Jensen, USA</p> <p><b>Safety climate and its relationship with furniture companies' safety performance</b>  M. Rodrigues, P. Arezes and C. Leão, Portugal</p>

<b>121</b>	<b>Physical Hazard and Prevention I</b> Chair: R.-L. Jang, Taiwan
<b>Track PEHF</b> <b>16:00-18:00 Room 0.105</b>	<p><b>Effects of game-setting on wrist motion and muscle fatigue</b> R. -L. Jang and F. Sung, Taiwan</p> <p><b>Medicine slips prevention for patient safety</b> C. -W. Lu, Taiwan</p> <p><b>Effects of different surfaces on biomechanical loading of the upper extremities while handling wheelbarrows</b> Y. -H. Lin, Taiwan</p> <p><b>Usability evaluation for driving with the joystick and mechanical hand controllers</b> H. -C. Wu, C.-T. Lin, M.-C. Chiu and Y. -C. LinTaiwan</p> <p><b>Investigating the enhancement of stereoscopic displays to parking performance</b> A. -C. Chen and C. -C. Chen, Taiwan</p> <p><b>Quantitative assessment of computer inputs and musculoskeletal complaints among three workgroups</b> H. -C. Chen, Y.-W. Chen, Y.-P. Liu and T. -T. Pan, Taiwan</p>
<b>122</b>	<b>Physical Ergonomics and Human Interactions II</b> Chair: F. Özkan, Turkey
<b>Track PEHF</b> <b>16:00-18:00 Room 3.201</b>	<p><b>Ergonomic supporting unit for invasive surgery</b> S. Tigrel and N. Bayazit, Turkey</p> <p><b>Eye movement analysis on observation method “mitate” of Urushi craftspeople</b> A. Endo, C. Narita, K. Kuroda, Y. Takai, A. Goto, Y. Shimode and H. Hamada, Japan</p> <p><b>A socio-technical approach to the study of business models: A telehealth context</b> L. E. Bolton, L. Beaumont, H. Hughes, C. Clegg and D. Ross, UK</p> <p><b>Overall car seat discomfort onset during long duration driving trials</b> G. Sammonds, M. Fray and N. Mansfield, UK</p> <p><b>Effect of text direction and displays size on reading Chinese fonts from color E-reader</b> H. Lin, W. Lin, W.-C. Tsai and Y. -Y. Cheng, Taiwan</p> <p><b>Automated musculoskeletal disorders assessment using OWAS and Kinect</b> T. -H. Sun, R.-H. Lin, M.-L. Liu, F.-C. Tien and Y. -T. Pan, Taiwan</p>
<b>123</b>	<b>Systems Thinking in Road and Rail Transport</b> Chair: P. Salmon, Australia
<b>Track RR</b> <b>16:00-18:00 Room 3.202</b>	<p><b>Combining human factors methods with transport data recordings</b> G. Walker and A. Strathie, UK</p> <p><b>How much route guidance is enough?</b> G. Walker and A. Manson, UK</p> <p><b>Key players and their interactions within the young driver road safety system: Perspectives and Partners</b> B. Scott-Parker, P. Salmon, N. Goode and T. Senserrick, Australia</p> <p><b>Pathways to failure? Using work domain analysis to predict accidents in complex systems</b> P. Salmon, M. Lenné, G. Read, G. Walker and N. Stanton, Australia/UK</p> <p><b>Life in the wild? Using ergonomics systems methods and field of safe travel theory to evaluate intersection designs</b> M. Cornelissen, P. Salmon, N. Stanton and R. McClure, Australia/UK</p> <p><b>Extracting design information from the outputs of systems analysis: A case study in public transport ticketing</b> G. Read, P. Salmon, M. Lenné and D. Jenkins, Australia/UK</p> <p><b>Recognition primed decision-making as a framework to analyse driver decision-making at rail level crossings</b> M. Lenné, P. Salmon, V. Beanland and N. Stanton, UK/Australia</p>

<b>124</b>	<b>Electric Vehicles – New Challenges for Human Machine Interaction</b> Co-Chairs: P. Cocron and J. Krems, Germany
Track RR	It's not about the car: Contextual factors influence drivers' sub-optimal usage of their electric vehicles M. Burgess, M. Harris, S. Mansbridge and N. King, UK
Room 2.114	Social media monitoring as a tool for the development of disruptive innovations A. Keinath and R. Vilimek, Germany
16:00-18:00	Does range anxiety exists? Experiences from the ELVIRE project M. Nilsson, Sweden
	Attitude towards electric vehicles in the Czech Republic P. Zámečník, M. Šucha, P. Řezáč and K. Bohmová, Czech Republic
	New features on noise, vibration and harshness posed by the next generation of vehicles N. Campillo Davó, M. Sanchez-Lozano, R. Peral-Orts, B. Pluymers and W. Desmet, Spain/Belgium
	Pushing the limits? Regenerative braking in takeover situations C. Witzlack, P. Cocron and J. Krems, Germany
	Examining user-range interaction in battery electric vehicles: A field study approach T. Franke, M. Günther, M. Trantow, J. Krems, R. Vilimek and A. Keinath, Germany
<b>125</b>	<b>Safety and Health Related Topics</b> Co-Chairs: A. Silvetti, Italy, and I. Almeida, Colombia
Track SO	Environmental problems among rural women and management of occupational health and safety R. Saxena, P. Sharma, P. Joshi and K. Narwal, India
Room 0.310	Risk among hill families of Mountain Region of Uttarakhand, India J. Joshi and P. Sharma, India
16:00-18:00	sEMG studies of milking activities in two different working conditions A. Silvetti, M. Gismondi, S. Mari, F. Forzano, A. Ranavolo and F. Draicchio, Italy
	Factors associated to musculoskeletal injuries in Thai massage therapists N. Khamhlom, Thailand
	The relationship among the movement trajectory of body parts, the center of gravity movement and the standing postures while chucking of an expert and the non-expert P. Sirisuwan, T. Yoshikawa and H. Hamada, Japan
	Work-related accident on petroleum industry: Beyond human errors and immediate causes S. Beltran, I. Almeida and R. Vilela, Brazil
	Analysis of temperature on the surface of the wrist in individuals emulating an operation with highly repetitive movements using sensory thermography S. Enriquez, C. Camargo, E. de la Vega, J. Olguin and J. Lopez, Mexico
<b>126</b>	<b>Model Predictive Control and Military Planning for the Human Domain: Possibilities and Pitfalls</b> Chair: J. Frank, USA
Track CDDM	MPC: Need, promise, limits D. Eyre and G. Citrenbaum, USA
Room 0.313	MPC: Technical challenges overview G. Citrenbaum, USA
16:00-18:00	MPC, modeling and data requirements J. Appleget, USA
	Modeling and the human domain: MPC potential and modeling requirements C. Lofdahl, USA
	Megacities, model predictive control and military planning G. Van Nederveen, USA
	MPC: An operator's perspective J. Morrison, USA

127	<b>Usability in IT devices</b> Chair: D. T. Cho, Korea
8:00-10:00 Room 2.113 Track APD	<p>How to design great emotional experience for mobile user interface?                      D. T. Cho, J. Jung, I. Myung, H. Lee, Korea, and P. W. Jordan, UK</p> <p>A study on the behavioral characteristics of the elderly living in a smart home                      H. -C. Kim, S.-M. Ko, H.-J. Oh and Y. -G. Ji, Korea</p> <p>Development of visual complexity model in smart car driving context                      S. Lee, J. Kim, H. Hwangbo and Y. Ji, Korea</p> <p>Cognitive and affective UI for enhanced usability                      S. Rafiqi, S. Nair and E. Fernandez, USA</p> <p>Effects of loading lags and displays on television viewing experience                      S. -F. Liang and J. -H. Lian, Taiwan</p>
128	<b>Modeling of Societies in Conflict</b> Co-Chairs: J. Appleget and R. Fricker, USA
8:00-10:00 Room 2.110 Track CDM	<p>Exploring the integrative model of organizational trust as a framework for understanding trust in government                      R. Fricker, Jr., W. Kulzy, and D. Combs, USA</p> <p>Assessing threats to peace in the autonomous region of Muslim Mindanao in the Philippines                      K. Johnsen, R. Fricker, Jr. and T. Deveans, USA</p> <p>Modeling the elements of stability for societies in conflict                      J. Appleget, USA</p> <p>Applying factor analysis to population surveys in Afghanistan to facilitate improved decision making                      J. Maddux, USA</p> <p>Incorporating the influence of social media into generative models of social stability                      S. Hall, R. Baird and J. Appleget, USA</p> <p>Modeling the effects of modern conflict on populations                      M. Powers and D. Heerlein, USA</p>
129	<b>Sustainable Design III</b> Chair: F. Moreira da Silva, Portugal
8:00-10:00 Room 0.101 Track ED/EMUSP	<p>The car segment reconceptualization in Portugal: New users, new functions                      P. Dinis, F. Moreira da Silva and R. Almendra, Portugal</p> <p>Cognitive ergonomics in the communication design process: Results from a study carried out with a sample of students                      M. Cadarso, Portugal</p> <p>Graphic design as a user-centered interface                      D. Raposo Martins and F. Moreira da Silva, Portugal</p> <p>Ergonomic recommendations for the design of pacifiers                      T. Stüdeli, Switzerland</p> <p>Ergonomics in children's furniture – emotional attachment                      C. Salvador, J. Vicente and J. Martins, Portugal</p> <p>Pressure distribution on hand's palm as evaluation technique of product design                      D. Silva and L. Paschoarelli, Brazil</p> <p>Teaching HFE in industrial/product design courses in Portugal                      A. Dias, R. Almendra and F. Moreira da Silva, Portugal</p>

<b>130</b>	<b>Ergonomics and the Virtual and Digital Environment III</b> Chair: C. Falcao, Brazil
8:00-10:00 Room 1.112 Track ED/EMUSP	<p><b>Analysis of a spectacle-type device for rapid visual referencing</b>  D. Yokoyama, T. Uchiyama, Y. Fukuda, M. Yagi and M. Nakanishi, Japan</p> <p><b>Does spectacle-type wearable display improve efficiency and safety? An experimental evaluation of practical use</b>  T. Uchiyama, D. Yokoyama, Y. Fukuda, M. Yagi and M. Nakanishi, Japan</p> <p><b>Touch-screen interfaces - Discourse analysis with users 18-35 years</b>  L. Machado, E. Ferreira and L. Vergara, Brazil</p> <p><b>Experimental study on display of energy-related information and control in smart homes and electric vehicles</b>  K. Ito and M. Ohkura, Japan</p> <p><b>Context of use in critical situations: Proposal of a methodological framework to model erratic user behavior into product and information design parameters</b>  M. Okimoto, A. Pelegrini, L. Licheski and E. Nunes, Brazil</p> <p><b>Intercultural aspects: Color usability perception</b>  M. Okimoto, K. Bengler and C. Monreal, Brazil/Germany</p> <p><b>The EQUID approach: Improving ergonomics quality in product design and development</b>  K. Lange-Morales, G. García-Acosta and R. Bruder, Colombia/Germany</p>
<b>131</b>	<b>Ergonomics, Product and Work Design II</b> Chair: E. Filgueiras, Portugal
8:00-10:00 Room 1.113 Track ED/EMUSP	<p><b>Development of an evidence based toolkit to support safe design for children</b>  S. O'Connor and P. Waterson, UK</p> <p><b>Inclusive service design: In search of better services</b>  C. Aceves-Gonzalez, S. Cook and A. May, UK</p> <p><b>Comparative analysis between product centered design and user centered design methodologies in product design classes</b>  L. Reis, E. Filgueiras and E. Vilar, Portugal</p> <p><b>Mass and density of materials: Quantity surveying students' knowledge and perceptions</b>  J. Smallwood, South Africa</p> <p><b>Time study and design</b>  G. Bedny, W. Karwowski and I. Bedny, USA</p> <p><b>Workload response to sensory-motor tasks under time pressure in life science labs: Effects of task complexity</b>  A. Rieger, R. Stoll, K. Thorow and M. Weippert, Germany</p> <p><b>"Preparation for work" intervention model in a group of operators MSD high prevalence of shoulder and cervical spine</b>  E. Cadavid and L. Saenz, Colombia</p>
<b>132</b>	<b>Human Factors and Ergonomics in Information Design and Safety-Critical Systems</b> Co-Chairs: Z. Li and F. Guo, PR China, and R. Heimgärtner, Germany
8:00-10:00 Room 1.111 Track ED/EMUSP	<p><b>Development of a tool kit for integrated system validation</b>  M. Zhao, F. Song, Z. Li and X. Dong, China</p> <p><b>Remote collaboration-Study on factors affecting team mental models</b>  J. Wu and L. Liu, China</p> <p><b>Cross-cultural design for the human interface system in a nuclear power plant</b>  F. Song, S. Zhang, J. Ma and L. Mao, P. R. China</p> <p><b>Light and Shadow Jigsaw: The importance of natural light on museums displays spaces</b>  C. Gomes and S. Preto, Portugal</p> <p><b>Modeling a tangible user interface for the navigation in an information space</b>  C. -W. Chen, K. Tseng and S. Chang, Taiwan</p> <p><b>Human factors of ISO 9241-110 in the intercultural context</b>  R. Heimgärtner, Germany</p> <p><b>A campus-based information sharing and communicating system for collaborative design and decision making</b>  M. Imai, Y. Moritoh and Y. Imai, Japan</p>



<b>133</b>	<b>Work Stressors, Resources and Safety in Telehealth Technology and Health Care Work II</b> Chair: C. Garg, USA
8:00-10:00 Room 3.112 Track HC	<p>Physicians' work hours and patient safety in a Norwegian context K. Alstveit Laugaland and K. Aase, Norway</p> <p>Arm and neck pain in ultrasonographers F. Claes, J. Berger and G. Stassijns, Belgium</p> <p>Study on burnout syndrome within the Portuguese firefighters population P. Gaspar and M. Corticeiro Neves, Portugal</p> <p>Work conditions of health technicians in Ceará's public health system R. Maciel, J. Santos and A. Nascimento, Brazil</p> <p>Looking for the human factor in workplace incidents in an acute hospital in Singapore - A retrospective study W. K. Kam, Singapore</p> <p>Healthcare system focusing on emotional aspect using augmented reality: Emotion detection by facial expression recognition S. Tivatansakul, G. Chalumporn, S. Puangpontip, Y. Kankanokkul, T. Achalaku and M. Ohkura, Japan/Thailand</p> <p>Telehealth technology enabling medication management of children with autism U. Reischl and R. Oberleitner, USA</p>
<b>134</b>	<b>Human Factors in Systems Engineering II</b> Chair: E. Thomas, Brazil
8:00-10:00 Room 3.111 Track HFSSE	<p>Challenges and opportunities for the industry in meeting the IEA 62304 standard K. Cobb and M. Bakal, USA</p> <p>Facebook as a source for human-centered engineering. Web mining-based reconstruction of stakeholder perspectives on energy systems B. Trevisan, D. Eraßme, T. Hemig, S. Kowalewski, J. Kluge, S. Himmel, A. Borg, E.-M. Jakobs and M. Ziefle, Germany</p> <p>Systemic design research for hospital laundry M. Hua and L. Long, China</p> <p>Root cause tracking system using logic diagram J. -T. Kim, Korea</p>
<b>135</b>	<b>Innovation in Healthcare Intelligence and Smart Communities</b> Chair J. Sairamesh, USA
8:00-10:00 Room 0.304 Track HSSE	<p>Early warning methods to reduce 30-day readmissions rates and target the right healthcare interventions at the right time J. Sairamesh and C. Kaskins, USA</p> <p>Risk prediction methods based on electronic medical records and social surveys for improving patient outcomes and enabling targeted care services C. Kaskins, J. Sairamesh, R. Rajagopal, R. Nemana, K. Argenbright and P. Anderson, USA</p> <p>A game theoretic approach for managing multi-modal urban mobility systems V. Andrikopoulos, M. Bitsaki, A. Bucchiarone, S. Saez, D. Karastoyanova, F. Leymann, C. Nikolaou and M. Pistore, Germany/Greece/Italy</p>

<b>136</b>	<b>Ergonomic Design of Future Production Systems II</b> Co-Chairs: C. Schlick and J. Bützler, Germany
8:00-10:00 Room 0.102 Track MFG	<p><b>Interactive analysis and evaluation of production control</b> G. Schuh, T. Potente, C. Thomas and M. Luckert, Germany</p> <p><b>Ergotyping®-Tools providing computer-based support for ergonomic evaluation processes of human-machine-interfaces</b> E. Scherstjanoi, C. Kamusella, D. Groellich and K. Buerkle, Germany</p> <p><b>Design and technical construction of virtual-reality-supported learning elements for manual assembly</b> L. Goldhahn and C. Thümer, Germany</p> <p><b>Ergonomic design of working time models</b> P. Stock and B. Deml, Germany</p> <p><b>Application of performance measurement in the context of ergonomic workplace design</b> R. Heller, M. Sauter and R. Bruder, Germany</p> <p><b>Human centered assistance applications for production</b> J. Schmidtler, C. Hölzel, V. Knott and K. Bengler, Germany</p> <p><b>Influence of instructional methods on learning sensorimotor tasks</b> F. Meyer, T. Jeske, S. Duckwitz and C. Schlick, Germany</p>
<b>137</b>	<b>Risk Management and Accident Analysis</b> Chair: R. Melo, Portugal
8:00-10:00 Room 0.104 Track SMHF	<p><b>Risk management as a strategic tool in elderly care</b> K. Hellstén, S. Arve, L. Tamminen-Peter, H. Isoaho and T. Putus, Finland</p> <p><b>Analysis of accidents in trailer towing</b> F. Aghazadeh and A. Pisharody, USA</p> <p><b>Semi-quantitative approach in risk assessment: Inter and intra-rater reliability</b> F. Carvalho and R. Melo, Portugal</p> <p><b>Outsourcing and accidents in the electrical sector</b> A. Silva, R. Vilela and I. Almeida, Brazil</p> <p><b>Risk assessment in a nuclear medicine department</b> R. Canotilho de Almeida and M. Corticeiro Neves, Portugal</p> <p><b>Occupational hazards faced by the agricultural hill population</b> H. Bhatt and P. Sharma, India</p>
<b>138</b>	<b>Physical Hazard and Prevention II</b> Chair: Y. Kwon, S. Korea
8:00-10:00 Room 0.105 Track PEHF	<p><b>Analysis of novice and experienced rice farmer grip force and arm muscle activity in a plowing task</b> M. Swangnetr, Thailand, and D. Kaber, USA</p> <p><b>A study on the occupational health &amp; safety management system integrated with business continuity management system</b> C. -O. Kim, Y.-G. Kwon and S. -J. Oh, Korea</p> <p><b>Postures and movements of upper arms and upper back during box handling in real setting</b> H. Nogueira, F. Locks, M. Costa, J. Hermosilla and A. Oliveira, Brazil</p> <p><b>Association of low back pain to whole-body vibration in mining truck drivers</b> G. de Souza Moraes, L. Felipe Silva and R. Sampaio, Brazil</p> <p><b>Prevalence of lower extremity malalignment in rice farmers</b> U. Karukunchit, M. Swangnetr, R. Puntumetakul, W. Eungpinichpong and A. Emasithi, Thailand</p>

<b>139</b>	<b>Physical Ergonomics and Ergonomic Analysis II</b> Co-Chairs: F. Aghazadeh, USA, and S. Al-Qaisi, Lebanon
8:00-10:00 Room 3.201 Track PEHF	<p>Ergonomics, design and technology applied to fashion accessories A. Pires Fernandes, Portugal</p> <p>Study on kind transfer assistance between wheelchair and bed: In the case of eye movement analysis M. Ito, A. Endo, Y. Takai, T. Yoshikawa, A. Goto and N. Kuwahara, Japan</p> <p>Effect of backpack carriage position on physiological cost and subjective responses of University students S. Joseph and A. Sengupta, India</p> <p>Identification of high-intensity physical activities during child rearing using a triaxial accelerometer M. Takanokura, K. Ariizumi, N. Imai, S. Taki and T. Yamada, Japan</p> <p>Physical exercise program to control musculoskeletal symptoms among sewing machine workers of an aircraft maintenance company L. Januario, R. Moreira, F. Barros and A. Oliveira, Brazil</p> <p>Determination of forces required to open valves S. Al-Qaisi, Lebanon, F. Aghazadeh L. Ikuma, USA</p>
<b>140</b>	<b>System Design and Evaluation II</b> Chair: M. Schwalk, Germany
8:00-10:00 Room 3.202 Track RR	<p>Advanced in-vehicle applications to mitigate driver aggression A. Soro, S. Wollstädter and A. Rakotonirainy, Australia/Germany</p> <p>Experimental studies on driver's expectations regarding the positions of display and control elements in the car cockpit M. Schwalk, S. Hetzinger and T. Maier, Germany</p> <p>Comparing performance on a number of auditory memory tasks: Connotations for how auditory information is perceived in vehicles N. Herbert, N. Merat, N. Thyer and S. Isherwood, UK</p> <p>Evaluation of telematic applications for information provision in public transport A. Szarata, O. Kokkinou, S. Basbas and I. Politis, Poland/Greece</p> <p>A driving simulator study on the effect of transversal rumble strips located nearby dangerous curves under repeated exposure C. Ariën, K. Brijs, W. Ceulemans, G. Vanroelen, E. Jongen, S. Daniels, T. Brijs and G. Wets, Belgium</p>
<b>141</b>	<b>Driver Distraction and Inattention</b> Chair: A. Huemer, Germany
8:00-10:00 Room 2.114 Track RR	<p>Perceived and real impacts of digital advertising billboards on driving performance V. Sisiopiku, M. Islam, S. Wittig, S. Welburn and D. Stavrinou, USA</p> <p>Recording and evaluation procedure of drivers' distraction in accordance with driver's characteristics in high speed arterials E. Misokefalou and N. Eliou, Greece</p> <p>Driving maneuver prediction based on driver behavior observation F. Diederichs and G. Pöhler, Germany</p> <p>Is an image 100 words? The impact of advertisement on drivers' attitudinal and behavioural change E. Misokefalou, N. Eliou and P. Louka, Greece</p> <p>Meta-analysis on the effects of potentially distracting activities on driving related performance measures in experimental studies A. Huemer, M. Vollrath, J. Kazazi and P. Nowak, Germany</p> <p>Impact of music tempo on simulated driving performance J. Navarro and E. Reynaud, France</p>

<b>142</b>	<b>Psychosocial Factors, Communication and Teamwork I</b> Chair: C. Kleindienst, Switzerland	
	Track SO	<p>The problem of adaptation personalities in a professional environment V. Kirichenko, Russia</p> <p>Adaptive team behaviours for coping with unexpected and unknown situations - An observational study C. Kleindienst, J. Brüngger, J. Koch and F. Ritz, Switzerland</p> <p>Analysis and development of occupational competencies of 21st century manager of municipal sector M. Spychała, Poland</p>
	Room 0.310	<p>Relative age effect in physical and psychological development in young Japanese children and associated problems for Kindergarten teachers Y. Kawata, A. Kamimura, S. Izutsu, K. Yamada, M. Iizima, M. Mizuno and M. Hirose, Japan</p> <p>Descriptive evidence of the work-family compensation among Japanese midwives: Using the multiple role map program Y. Yamada, Y. Kinooka, T. Ebara, M. Mizuno, M. Hirose and M. Kamijima, Japan</p>
	8:00-10:00	<p>Investigation research on the mental health status and related influent factors for oil-workers N. Li and J. Liu, China</p> <p>A study of the organizational support for building resilience of the fitness club employees N. Shoji, Y. Hochi, H. Fujii, H. Moriguchi, T. Nakayama, M. Mizuno and K. Kitamura, Japan</p>
<b>143</b>	<b>Health and Risk Assessment</b> Chair: J. Molenbroek, UK	
	Track SO	<p>Use of a short questionnaire in occupational health to advise on prevention priorities J. -P. Meyer and J. Willmann, France</p> <p>Gender differences: the complexity of the risk analysis S. Marino, S. Doria and M. Donisi, Italy</p>
	Room 0.313	<p>Child labour conditions: A gender approach in the Colombian Caribbean region O. Oviedo-Trespalacios, R. Peñabazca Niebles, J. Palacio, D. Holgado and M. Maestre, Colombia</p> <p>Risk assessment of forging workers in unorganized sector of Uttarakhand, India K. Narwal, P. Sharma and P. Joshi, India</p>
	8:00-10:00	<p>Influence of footwear on fall risk in older persons C. Sterke, T. van der Cammen, A. Halilovic, B. Oei and J. Molenbroek, The Netherlands/UK</p> <p>Musculoskeletal disorders in visual display terminal (VDT) workers and their effects on work ability H. Ge and J. Liu, China</p> <p>Weavers of Uttarakhand: An ergonomics perspective A. Goel and R. Garbhal, India</p>
<b>144</b>	<b>Ergonomics in Urban Design</b> Chair: R. Tarczewski, Poland	
	Track HFSI	<p>The role of ergonomics in architectonic and marketing operations R. Janowicz, Poland</p> <p>Eco-ergonomics and floating buildings design. The Blue Strategy of Wroclaw A. Drapella-Hermansdorfer, Poland</p>
	Room 0.307	<p>Polish office work environment at examples of buildings recently completed in Cracow A. Taczalska, Poland</p> <p>Human factors and ergonomics in architectural designing of contemporary stadiums and other facilities for the mass audience Z. Pelczarski, Poland</p>
	8:00-10:00	<p>Access to eservices in occupational health and safety K. Lis and J. Olszewski, Poland</p> <p>Green ergonomics for environmental factors evaluation in work system design L. Wang, Hong Kong</p> <p>Architect-researcher as a model combination of research and design practice on examples K. Fross, Poland</p>

<b>145</b>	<b>New Methods of Investigation of Work Load</b> Chair: B. Kapitaniak, France
<b>8:00-10:00</b>	<b>Room 2.115</b>
<b>Track</b>	<b>STHESCA</b>
	<p><b>Integrated system for monitoring the psychical and physical conditions of road vehicle drivers</b> A. Bortkiewicz, E. Gadzicka, M. Walczak, M. Kosobudzki, Z. Jóźwiak, P. Viebig, A. Szykowska, T. Makowiec-Dabrowska, B. Kapitaniak and J. Siedlecka, Poland</p> <p><b>Visual strategy on driving in simulator of urban bus</b> B. Kapitaniak, E. Gadzicka, M. Walczak, M. Kosobudzki, Z. Jóźwiak, P. Viebig, A. Szykowska, T. Makowiec-Dabrowska, J. Siedlecka and A. Bortkiewicz, Poland</p> <p><b>Analysing eye-tracking data: From scanpaths and heatmaps to the dynamic visualisation of areas of interest</b> G. Drusch, J. Bastien and S. Paris, France</p> <p><b>Evalyzer: A remote usability testing tool</b> C. Bastien, G. Drusch and P. Rodriguez, France</p> <p><b>Methodological considerations about motor activity tracking in real life settings</b> O. Buttelli, R. Parry, M. Jabloun, P. H. Ravier, H. P. Ma, N. Ferveur and E. Lalo, France/Taiwan</p> <p><b>Studying falls in real situations: Coupling subjective experience and biomarkers in the design of innovative methods</b> R. Parry, S. Aupetit, O. Buttelli, J. Riff, M. Welter and E. Lalo, France</p> <p><b>A new E-learning system focusing on emotional aspects using eye tracking</b> S. Charoenpit and M. Ohkura, Japan</p>
<b>10:00-10:30 Refreshments will be provided in the foyer on the ground floor</b>	
<b>146</b>	<b>User Centred Design and Emotion</b> Chair: S. Minel, France
<b>10:30-12:30</b>	<b>Room 2.113</b>
<b>Track</b>	<b>APD</b>
	<p><b>Impact of multidisciplinary teams on the end-user consideration in the building industry</b> X. Latortue, France</p> <p><b>Emotional sustainability: Avoiding the disposable</b> E. Benson and D. McDonagh, USA</p> <p><b>Visual perception of product as parameter of design process</b> J. Kaljun, G. Harih and B. Dolšak, Slovenia</p> <p><b>Integrating user attention for design evaluations in customer-orientated product development</b> M. Köhler, B. Falk and R. Schmitt, Germany</p> <p><b>Development of interactive system for visually impaired using tactile sensations and gestures</b> K. Usuda, S. Matsuoka and M. Ohkura, Japan</p> <p><b>Human concepts applied on school design</b> E. Santos, Brazil</p>
<b>147</b>	<b>Human Factors Issues in Air Traffic Management II</b> Co-Chairs: A. Haslbeck and P. Gontar, Germany
<b>10:30-12:30</b>	<b>Room 2.110</b>
<b>Track</b>	<b>AVI</b>
	<p><b>Development and application of a hybrid control theory model to quantify human-machine interaction problems on the flight deck</b> C. Surakitbanharn and S. Landry, Japan/USA</p> <p><b>How can procedures and checklists help pilots in abnormal flight situations?</b> A. Haslbeck, P. Gontar and E. Schubert, Germany</p> <p><b>Dynamic rescheduling in airline operations control</b> K. Igbo, Australia</p> <p><b>Using system-wide trust theory to analyze passenger loss of trust in aircraft automation</b> S. Winter, S. Rice and K. Reid, USA</p> <p><b>Fuzzy model of air traffic controller attitude to the risk during tactical and immediate decision making</b> A. Reva and S. Borsuk, Ukraine</p> <p><b>Assessment of the mitigating effect of a new alerting principle on attentional tunnelling in the cockpit using eye tracking</b> M. Causse, L. Christophe and F. Dehais, France</p>

148	<b>Cognitive Assessment: Readiness and Workload</b> Chair: M. Swangnetr, Germany
Track CN Room 0.101 10:30-12:30	<p><b>Identifying automation opportunities in a life science process through operator task modeling and workload assessment</b>                      M. Swangnetr, Germany/Thailand, D. Kaber, USA, E. Vorberg, H. Fleischer and K. Thorow, Germany</p> <p><b>Initial development of a cognitive load assessment tool</b>                      P. Thorvald and J. Lindblom, Sweden</p> <p><b>Resource based measurement of Human Performance applied to night shift work</b>                      M. Goebel, J. Davy and K. Huysamen, South Africa</p> <p><b>Towards a framework for reducing cognitive load in manufacturing personnel</b>                      J. Lindblom and P. Thorvald, Sweden</p> <p><b>Towards better understanding of cognitive workload during physician-computer interaction</b>                      L. Mazur, P. Mosaly, A. Falchook, M. Eblan and L. Marks, USA</p> <p><b>Analysis of operator activity in the control room of the production and transfer of oil and natural gas in a Brazilian oil company</b>                      A. Reis and R. Carvalho, Brazil</p>
149	<b>Ergonomics in Design of Products</b> Chair: L. Ghibaudo, Italy
Track ED/EMUSP Room 1.112 10:30-12:30	<p><b>A cross-cultural comparison of safety beliefs about products and warnings: Brazil vs. United States</b>                      C. Mont'Alvão, Brazil, and S. Kim, USA</p> <p><b>Visualizing prioritizing typical and potential risks of consumer products by graph mining of an accident database</b>                      A. Hirata, K. Kitamura, Y. Nishida, Y. Motomura and H. Mizoguchi, Japan</p> <p><b>The design of an auditory alarm concept for a paper mill control room</b>                      A. Sirkka, J. Fagerlön, S. Lindberg and K. Delsing, Sweden</p> <p><b>An integrated approach to ergonomics in the design phase of new car models: Virtual simulation and physical validation</b>                      S. Spada, D. Germanà, L. Ghibaudo and F. Sessa, Italy</p> <p><b>The body in ideas: Implications of embodied cognition for design</b>                      S. Bagnara and S. Pozzi, Italy</p> <p><b>Inquiring and evaluation ergonomics for design</b>                      L. Mercado and A. Rodea, Mexico</p>
150	<b>Ergonomics in the Design of Products and Services</b> Chair: C. Paschoarelli, Brazil
Track ED/EMUSP Room 1.113 10:30-12:30	<p><b>The multisensory experience: A case study with five different products</b>                      B. Razza, L. Paschoarelli, H. Santos and L. Andrade, Brazil</p> <p><b>Design, development and ergonomic evaluation of pickaxe</b>                      M. Khidiya and A. Bharadwaj, India</p> <p><b>Technique analysis of processing system for traditional Japanese paper fan</b>                      W. Zelong, P. Sirisuwan, C. Narita, H. Yuminaga, Y. Takai, A. Goto and H. Hamada, Japan</p> <p><b>Statistical analysis of the height of human head in the use of ballistic helmets</b>                      M. Catapan, M. Okimoto, M. Villas Boas and R. Waldhauer, Brazil</p> <p><b>The ergonomic evaluations of three front baby carriers</b>                      C. Y. Wu, H. R. Huang and M. J. Wang, Taiwan</p> <p><b>User-centred design for QR store: A case study</b>                      S. Marino and G. Duca, Italy</p> <p><b>Emotional design: How pleasurable environments can generate value when creating Smart products</b>                      R. Balestra and A. Arruda, Brazil</p>



<b>151</b>	<b>Ergonomics and Usability Evaluation</b> Chair: M. Dziennus, Germany
<b>10:30-12:30</b> Room 1.111 Track ED/EMUSP	<p><b>Usability evaluation of products - A survey on methods and techniques used in analysis of consumer packaging</b> A. Acioly, M. Soares and P. Burgos, Brazil</p> <p><b>Redesign of alarm clock through usability evaluations</b> N. Anaya, J. Rey Galindo and M. Soares, Mexico/Brazil</p> <p><b>An approach to evaluation of aesthetic function on usability: An exploratory study about descriptors of aesthetic in pruning shears</b> L. Campos, L. Mattos, A. Santos and L. Paschoarelli, Brazil</p> <p><b>Risk perception in domestic stove: Usability and security approach in product design</b> J. Ribas, M. Okimoto, A. Dalpin and M. Pacheco, Brazil</p> <p><b>Criteria for measuring the efficiency of use of appliances: Survey from usability experts and designers opinion</b> C. Silva, A. Neves and S. Padovani, Brazil/Sweden</p> <p><b>Usability evaluation method for E-learning systems: Combination of questionnaire and heuristic evaluation</b> A. Tsarik and A. Burov, Ukraine</p> <p><b>Risk perception in domestic stove: Usability and security approach in product design</b> M. Pacheco, Brazil</p>
<b>152</b>	<b>Virtual Reality in Ergonomics</b> Chair: P. Noriega, Portugal
<b>10:30-12:30</b> Room 3.112 Track ED/EMUSP	<p><b>Inspædia, inspiring a collaborative intelligence network: Designing the user experience</b> P. Maldonado, F. Moreira da Silva and F. Teixeira, Portugal/Brazil</p> <p><b>Immersion factors in 3D video games</b> X. Retaux and G. Bourmaud, France</p> <p><b>Evaluation of intrusiveness in online video advertising. What is the best methodological strategy?</b> T. Abrantes, P. Noriega and F. Rebelo, Portugal</p> <p><b>Evaluating hazard-related perceptions of virtual household package prototypes</b> H. Ayanoglu, E. Duarte, P. Noriega, J. Teles and F. Rebelo, Portugal</p> <p><b>The influence of the scenario on intention to comply with warnings</b> R. Schiavini, Brazil</p>
<b>153</b>	<b>Design for Patient Safety</b> Co-Chairs: S. Hignett and T. James, UK
<b>10:30-12:30</b> Room 3.111 Track HC	<p><b>The current state of obesity in healthcare: A perfect storm</b> T. James, USA</p> <p><b>Patient safety, human factors ergonomics, &amp; design: The environment as a larger-scale strategy to reduce falls</b> E. Taylor and S. Hignett, USA</p> <p><b>Ergonomic interventions in WMSDs Prevention – A case study using 3D twist insoles to reduce the body pain in a tape manufacturing company</b> W. -L. Lee, S.-W. Yang, K.-T. Liu and I. Lin, Taiwan</p> <p><b>Measuring mental workload of medical physicists, radiation therapists and dosimetrists at the five stages of radiation treatment planning in external-beam radiotherapy using NASA-TLX</b> M. Galičič, E. Fallon, W. van der Putten, G. Sands and M. Moore, Ireland</p> <p><b>A new model for successful safe patient handling programs: Understanding and increasing the value</b> J. Vaughan, E. Hall, J. Driver and E. Race, USA</p> <p><b>Assessing medicine labels to improve usability</b> B. Ulutas and F. Ozkan, Turkey</p> <p><b>A patient-centered design approach to facility planning</b> N. Lightner, A. Carlstrom, C. Hughes, W. Englehart and J. Cadwallader, USA</p>

154	<b>Training and Work Simulations</b> Chair: S. MacKinnon, Canada
10:30-12:30 Track MAR Room 0.304	<p>Reducing crew size of future naval ships using a method suite for design, simulation and evaluation                      W. Post, J. van Diggelen, M. Rakhorst-Oudendijk and M. Grootjen, The Netherlands</p> <p>Virtual reality based training improves mustering performance                      D. Bradbury-Squires, D. Button and S. MacKinnon, Canada</p> <p>Simulated deck motion impairs reaction time                      G. Pearcey, S. MacKinnon and D. Button, Canada</p> <p>Maritime simulator training: Eye-trackers to improve training experience                      S. Renganayagalu, S. Komandur and R. Rylander, Norway</p> <p>Differences in workload of both skippers and pilots due to changes in environment bank lights                      W. Uitterhoeve and M. Zeilstra, The Netherlands</p>
155	<b>Ergonomics Qualifications and Safety Management</b> Co-Chairs: S. Väyrynen, Finland, and M. Vidal, Brazil
10:30-12:30 Track SMHF Room 0.102	<p>Ergonomics and resilience in crisis management                      M. Vidal and P. Carvalho, Brazil</p> <p>HSEQ assessment procedure for supplying industrial network: A tool for implementing sustainability and responsible work systems into SMEs                      S. Väyrynen, H. Jounila and J. Latva-Ranta, Finland</p> <p>Safety analysis of the Deepwater Horizon blowout based on the Functional Resonance Accident Model (FRAM)                      R. Pereira, C. Morgado, I. Santos and P. Carvalho, Brazil</p> <p>Safety management in the assembly of telecommunication towers                      H. Marques and P. Carvalho, Brazil</p> <p>A conceptual debate upon ergonomic point of view of work accidents                      M. Vidal, R. Bonfatti and P. Carvalho, Brazil</p> <p>Study approach under ISO 31.000/2009, in the plant area, division Talcuna, mining San Geronimo, Coquimbo region                      F. Torres, F. Contreras, J. Corvetto and A. Opazo, Chile</p> <p>Distributed situation awareness of industrial operators: Models and measurement methods                      S. Nazir, L. Soerensen, K. Ivar Øvergård and D. Manca, Norway/Italy</p>
156	<b>Workload and Stress Assessment in Complex Systems II</b> Chair: R. Taïar, France
10:30-12:30 Track PEHF Room 0.104	<p>Ergonomics of the standing smart: Increasing the comfort of standing workers                      R. Taïar, France</p> <p>Effects of load carriage on lumbopelvic motor control                      D. Chow, Hong Kong</p> <p>Study on the appraisal system of manual work efficiency                      L. Ding, F. Yang, J.-W. Li and X. -G. Yuan, China</p> <p>Effectiveness of evidence based ergonomic interventions in a manufacturing facility                      S. Bao, H. Kim, B. Silverstein, N. Howard, A. Garg and J. Kapellusch, USA</p> <p>What are the feelings of operators about physical and psychological ergonomic risks? A case study in SCANIA production angers                      M. Zare, M. Croq, J. Bodin, E. Cercier and Y. Roquelaure, France</p> <p>The prevalence of occupational injuries among metalworking industry employees in Barranquilla, Colombia                      O. Oviedo-Trespacios and R. Peñabaena Niebles, Colombia</p>

<b>157</b>	<b>Physical Ergonomics and Human Interactions III</b> Co-Chairs: S. Gallagher and S. Sesek, USA
<b>Track PEHF</b>	Suitable interhandle distance on a roll box pallet during turning task A. Ohnishi, M. Takanokura and A. Sugama, Japan
<b>Room 0.105</b>	Anthropometry of Indian Hill Women for development of agricultural implements P. Joshi, R. Jethi, N. Chandra, M. Roy, A. Kharbirkar and P. Sharma, India
<b>10:30-12:30</b>	Effects of force and repetition on inflammation during eccentric muscle contractions S. Gallagher, R. Sesek and J. Davis, USA
	The relationship between active heating power and temperature of the fingers in EVA glove L. Ding, Y. Tian and H. Liu, China
	Design of Tablet Storybooks adopting "Universal Design for Learning" approach to assist bilingual learning Y. -C. Yeh, M.-C. Chen and H. -J. Ho, Taiwan
<b>158</b>	<b>Eco-Driving, Public Transport and Pedestrians</b> Chair: S. Pampel, UK
<b>Track RR</b>	Climbing decision ladders to analyse ecodriving: The first rung on the way to fuel-efficient driving R. McIlroy and N. Stanton, UK
<b>Room 3.201</b>	The future of social transport: "A good idea, but..." J. Osmond, A. Woodcock, J. Begley and K. Frankova, UK
<b>10:30-12:30</b>	Passenger needs on mobile information systems – Field evaluation in public transport S. Hörold, C. Mayas and H. Krömker, Germany
	Development of future scenarios: Prediction of mental workload in a traffic management control room M. Zeilstra, M. Wilms, F. Blommers and D. de Bruijn, The Netherlands
	Speed control radars – Influence of the human factor in the impact on road traffic behavior and pollutant emissions M. Coelho, Portugal
	Assessing the problems in urban transportation infrastructure by observing public behavior – A case of pedestrian bridges in Karachi, Pakistan M. Rizvi, Pakistan
<b>159</b>	<b>Human Factors in Rail Systems</b> Co-Chairs: R. Van der Weide, The Netherlands, and A. Naumann, Germany
<b>Track RR</b>	To beep or not to beep: Developing a non fail-safe warning system in a fail-safe train protection environment R. Van der Weide, K. Schreibers and C. Weeda, The Netherlands
<b>Room 3.202</b>	Increasing the vocational action competences of rail traffic controllers by creating a virtual learning environment for trainees S. Dietsch and A. Naumann, Germany
<b>10:30-12:30</b>	Developing Bayesian belief networks to support risk-based decision making in railway operations B. Molloy, N. Balfe and E. Lowe, Ireland/UK
	Performance obstacles associated with train drivers A. Mazlumi, Z. Kazemia and G. Nasl Sarajia, Iran
	Automation in train traffic control B. Sandblad, S. Tschirner and A. Andersson, Sweden
	Stop, go, or slow, what did the last signal show again? – Developing an interface for train drivers to promote active processing of signal information S. Giesemann and A. Naumann, Germany
	Developing a human performance railway operational index to enhance safety of railway operations M. Kyriakidis, The Netherlands, A. Majumdar and W. Ochieng, UK

<b>160</b>	<b>Ergonomics in Public Building Design</b> Chair: E. Trocka-Leszczynska, Poland
10:30-12:30	<p><b>A method of assessing public space attractiveness with use of Google Maps: Case of Poznan MA</b> W. Bonenberg, Poland</p> <p><b>Ergonomic solutions for large hotel spaces</b> J. Jablonska and E. Trocka-Leszczynska, Poland</p> <p><b>Parametric design of airport passenger service areas</b> M. Sitek and D. Masly, Poland</p> <p><b>Aspects of flexibility in modernization of office buildings</b> W. Szarejko, Poland</p> <p><b>Function, form and ergonomics of design solutions for entrance zones to public utility buildings. In - situ analyses</b> D. Winnicka-Jaslowska, Poland</p> <p><b>Optimal economic manufacturing quantity and process target for imperfect systems</b> A. Zaid, Saudi Arabia</p>
<b>161</b>	<b>Hand-Arm Topics and Workstation Design</b> Chair: A. Murata, Japan
10:30-12:30	<p><b>Extraction of skilled element on the basis of change of writing pressure in calligraphy</b> A. Murata, K. Inoue and M. Moriwaka, Japan</p> <p><b>Effects of pen holding posture on handwriting motion</b> A. Murata and K. Goto, Japan</p> <p><b>Anthropometric analysis in the process of making traditional bread using the RULA method in the town of Chichijtla, Tamazunchale, San Luis Potosi, Mexico</b> L. Cruz Rivero, E. Franco Austria, M. Del Rosario Perez Salazar and C. Mar Orozco, Mexico</p> <p><b>Application of sensory thermography on workers with carpal tunnel syndrome of a textile industry in Mexico</b> C. Camargo, E. de la Vega, J. Olguin and J. Lopez, Mexico</p> <p><b>Refining the understanding of workplace characteristics from an occupant centered perspective with emphasis on the influence of seating preference</b> J. Lu and J. Noennig, Germany</p> <p><b>Ergonomic principles and regulatory standards related to personal protective equipment (PPE) used in the textile industry</b> F. Pozza, I. Dickie, K. Pfeiffer and G. Fink, Brazil</p>
<b>163</b>	<b>Managing the Changes</b> Co-Chairs: S. Grochmal and T. Oleksyn, Poland
10:30-12:30	<p><b>Paradigm of unity - A new holistic paradigm in management sciences. Ergonomic and spiritual aspect in theory and practice</b> S. Grochmal, Poland</p> <p><b>Conceptual work performance audit: How to enable environments for conceptual workers</b> W. Bauer and A. Hoberg, Germany</p> <p><b>Assigning technology resources to innovation projects in the aspect of games theory – (Managerial implications of G. Hardin's "The Tragedy of the Commons")</b> T. Bednarczyk, Poland</p> <p><b>Facing complexity in online marketing on consumer market</b> J. Wójcik and T. Doligalski, Poland</p>
<p>12:30-13:30 Lunch break in the foyer on the ground floor Light lunches will be provided for all registered conference participants.</p>	

164	<b>Cognition and Emotion in Serious Gaming Design</b> Chair: J. Kim, UK
13:30-15:30 Room 2.113 Track APD	<p>Using game-based collaborative learning to enhance critical thinking skills                      H. Ryu, D. Parsons and H. Lee, Korea/New Zealand</p> <p>Challenges of designing a life-log sharing system - The Pensieve                      A. Lee, J. Kim and H. Ryu, South Korea</p> <p>Measuring emotion in gaming experience                      H. K. Yang, J. Kim and H. Ryu, Korea</p> <p>A SWOT analysis of the gamification practices: Challenges, open issues and future perspectives                      A. Rapp, Italy</p> <p>Content evaluation of exciting feeling by using biosignals                      Y. Harada, T. Furuya, N. Takahashi, K. Hasegawa, T. Nakazato and M. Ohkura, Japan</p>
165	<b>Building Models for Decision Making in Complex Cross-Cultural Domains</b> Chair: E. Cakit, Turkey
13:30-15:30 Room 2.110 Track CDDM	<p>Using geographic information systems analysis for mapping adverse events in an active war theater                      E. Cakit, Turkey, and W. Karwowski, USA</p> <p>Developing an agent-based architecture to model population displacement                      J. Sokolowski and C. Banks, USA</p> <p>Validating a hybrid cognitive-system dynamics model of team interaction                      A. Bier and M. Bernard, USA</p> <p>Managing safety-related compliance of machines in global market                      J. Vasara and J. Kivistö-Rahnasto, Finland</p> <p>Cross-cultural differences in preference for relationally framed decision alternatives                      L. Saner, A. Mathis, S. Blok, S. Glazer, I. Pavisic and S. Paletz, USA</p> <p>Reading patterns of life: Practical tools from ethnography                      T. St. Benoit and C. Graffeo, USA</p>
166	<b>Digital Human Modeling Applications and Human Aspects of Reliability and Risk Assessment</b> Co-Chairs: R. Marshall, UK, and D. Hogberg, Sweden
13:30-15:30 Room 0.101 Track DHMHF	<p>The digital evaluation of driver's field of view and its potential impact on cyclist safety                      R. Marshall, S. Summerskill and S. Cook, UK</p> <p>Special computational gas flow simulation methods for trunkline network failures                      S. Pryalov and V. Seleznev, Russian Federation</p> <p>An algorithm for predicting short absence time from house using home sensor signals                      K. Yoshino, T. Sato and K. Matsuoka, Japan</p> <p>Digital human model applied to training and education in sports                      C. Guimarães, M. Zamberlan, V. Balbio, V. Santos, A. Paranhos, F. Pastura and G. Cid, Brazil</p> <p>Design and evaluation of a digital human modelling tool for consideration of anthropometric diversity                      E. Brolin, D. Högberg and L. Hanson, Sweden</p> <p>Investigating the effectiveness of priming in virtual environments                      C. Butler, Norway</p>

167	<b>Sustainable Design IV</b> Chair: F. Moreira da Silva, Portugal
13:30-15:30 Room 1.112 Track ED/EMUSP	<b>Outdoors Design</b> C. Nunes, Portugal <b>Ergonomic fashion design – sustainable dyes</b> G. Santos and C. Carvalho, Portugal <b>Ergonomics and design for musicians</b> L. Prado Leon and J. Rey Galindo, Mexico <b>Innovational design: Considering the basic</b> J. Ribas, M. Okimoto, A. Dalpin and M. Pacheco, Brazil <b>User centered design principles for entrepreneurs: Quality and sustainability since start-ups beginning</b> T. Serpa and F. Moreira da Silva, Portugal
168	<b>Ergonomics, Accessibility and Built Environment</b> Chair: J. Barcenilla, France
13:30-15:30 Room 1.113 Track ED/EMUSP	<b>Looking at the ergonomics of the environment of customer service points in the Brazilian public sector</b> A. Lima Costa and V. Villarouco, Brazil <b>The challenge of accessibility in historic towns: The case of Tirandentes Square in Ouro Preto, Brazil</b> M. Dias, P. Quinelato, J. Castañon and M. Barbosa, Brazil <b>A contribution of ergonomics to accessibility</b> X. Retaux and G. Bourmaud, France <b>Ergonomics analysis of a control room operators' workstation in an electric power supply company: An analysis of the built environment</b> R. Barros, I. Cavalcante, A. Silva, P. Santos, V. Villarouco and M. Soares, Brazil <b>Relationship between the lighting conditions and users' satisfaction</b> O. Oviedo-Trespacios, R. Peñabaena Niebles and R. Manjarres Ruiz, Colombia
169	<b>Ergonomics and Sustainability</b> Chair: E. Attaianesi, Italy
13:30-15:30 Room 1.111 Track ED/EMUSP	<b>Ergonomic intervention and sustainable innovation</b> S. Mota, B. Ortuño, S. Paixão-Barrados and R. Souza, Spain/Brazil <b>The inter-relationship between socio-technical systems and the principles of environmental sustainability in the pursuit of quality of work life, productivity and pollution prevention</b> G. Balbinotti, G. Coutinho, L. Vieira and L. Wiemes, Brazil <b>Ergonomics, environment and sustainability</b> A. Rodea and L. Mercado, Mexico <b>Human factors in design of sustainable buildings</b> E. Attaianesi, Italy <b>The quality of building design between aesthetics and usability: A case study on underground stations</b> G. Duca, Italy <b>How to integrate ergonomics and sustainability in architecture workshops?</b> A. Gonzalez and J. Waldron, Colombia/UK



<b>170</b>	<b>Ergonomics and Design for Elderly People</b> Chair: C. Guimaraes, Brazil
13:30-15:30 Room 3.112 Track ED/EMUSP	<p><b>3D scan of elderly functional postures applied to interior home design</b> C. Guimarães, M. Zamberlan, F. Pastura, G. Cid and M. Ferreira, Brazil</p> <p><b>Homes for the elderly: Environmental adequacy versus costs to use</b> N. Ferrer, M. Paiva and V. Villarouco, Brazil</p> <p><b>Packages (CRPs) through a usability test with elderly people</b> G. Bonfim and L. Paschoarelli, Brazil</p> <p><b>Statistics of accidents in the Portuguese elderly population: A short review</b> A. Ribeiro and M. Corticeiro Neves, Portugal</p> <p><b>Affective design for the third age: A case study in applying affective design methods to interface design</b> L. Garrett, New Zealand</p>
<b>171</b>	<b>Ergonomics and New Services in Healthcare II</b> Chair: G. Andreoni, Italy
13:30-15:30 Room 3.111 Track HC	<p><b>The building of a virtual individual model (VIM): Multi domain characterisation of health status in the PEGASO project</b> C. Lafortuna, J. Serrano, N. Coulson, M. Sacco, S. Tabozzi and G. Rizzo, Italy/Spain/UK</p> <p><b>Participatory workplace development for disabled workers reintegration</b> G. Andreoni, F. Costa, M. Dall'Amico, C. Frigo, E. Gruppioni, S. Muschiato, E. Pavan, M. Piccoli, M. Romero, B. G. Saldutto, C. E. Standoli, G. Verni and G. Vignati, Italy</p> <p><b>Superficial electromyography and motion analysis technologies applied to ultrasound system user interface and probe ergonomics evaluation</b> F. Vannetti, T. Atzori, G. Pasquini, L. Forzoni, L. Modi and R. Molino Lova, Italy</p> <p><b>Aerodynamics and biomechanical optimization of the jump phase in skiing, through a simulation-based predictive model</b> M. Mazzola, A. Aceti, G. Gibertini and G. Andreoni, Italy</p> <p><b>Using simulation to provide insights into the concept development of patient-centered care services</b> J. Cadwallader, S. Mellema and N. Lightner, USA</p> <p><b>A systematic approach to providing accessible electronic communication</b> N. Lightner, USA</p>
<b>172</b>	<b>Systems Engineering Applications</b> Chair: A. Szopa, Poland
13:30-15:30 Room 0.304 Track HFSSE	<p><b>Recommendations for Tracelink decisions – An empirical investigation of visualizations</b> E. Brandenburg, S. Zander, A. Figge and G. Beier, Germany</p> <p><b>A performance support tool for human factors design and evaluation</b> T. Andre, R. Ford, R. Meyer and A. Sebok, USA</p> <p><b>Social interaction simulators for the increase in human reliability in the design of new industrial plants</b> V. Santos, M. Zamberlan, J. Oliveira, F. Ribeiro, P. Streit, F. Pastura, T. Negri, C. Guimarães and G. Cid, Brazil</p> <p><b>Timeboxes in a new paradigm of behavior modeling</b> B. Brown, USA</p> <p><b>Towards modeling and predictive analysis of emergent behavior of intelligent transportation system of systems</b> K. Cooper, L. Chung, B. Amaba, S. Darlington and L. Dickson-Bull, USA/Canada</p>

<b>173</b>	<b>System innovations: A New Perspective in Servitization</b> Co-Chairs: M. Toivonen and K. -S. Paloheimo, Finland
<b>Track HSSE</b> <b>Room 0.102</b> <b>13:30-15:30</b>	<p>A multi-criteria and multi-actor perspective for the evaluation of sustainability services K. Hyytinen, F. Gallouj and M. Toivonen, Finland/France</p> <p>Revealing the complexities of health care renewal: A system dynamics approach H. Määttä, S. Ruutu and M. Toivonen, Finland</p> <p>Boundary objects and boundary spanning activities in industrial services J. Ylitalo, Finland</p> <p>Service innovation and social innovation: An analytical framework and its application to health services L. Rubalcaba, Spain, F. Gallouj, France, P. Windrum, UK, and M. Toivonen, Finland</p> <p>Are the social layers of ecosystem services understandable through the service-dominant logic: The business potential of forest as an experience S. Berghäll, O. Mattila, J. Kuusisto, I. Hayrinen and A. Toppinen, Finland</p> <p>Context-dependent model of value co-creation innovation ecosystem K. Kijima, T. Rintamäki and L. Mitronen, Japan/Finland</p>
<b>174</b>	<b>Human Factors and Ergonomics in Safety II</b> Chair: A. Murata, Japan
<b>Track SMHF</b> <b>Room 0.104</b> <b>13:30-15:30</b>	<p>A recommended treatment modality for patients with mechanical low back pain M. Mostafaei and H. Naeini, Iran</p> <p>Effectiveness of back and foot pressures for assessing drowsiness of drivers A. Murata, A. Nakatsuka and M. Moriwaka, Japan</p> <p>Exploration of possibility of driver's drowsiness prediction with high accuracy using both physiological and behavioral measures A. Murata, K. Naito, T. Koriyama and M. Moriwaka, Japan</p> <p>An attempt to predict point in time with high risk of accident by trend analysis: Method for detecting significant trend of change of behavioral measures A. Murata, K. Fukuda and T. Koriyama, Japan</p> <p>A consumers' testing approach to the usability of medical technology - insulin pumps and CGM systems T. Larsson, H. Aminoff and M. Mridha, Sweden</p>
<b>175</b>	<b>Digital Human Modeling with Muscle Fatigue Modeling</b> Co-Chairs: L. Ma and J. Niu, China
<b>Track PEHF</b> <b>Room 0.105</b> <b>13:30-15:30</b>	<p>Measurements of subject-specific local muscle fatigability L. Ma and J. Chang, China</p> <p>Influence of parameters on landmark automatic identification from three dimensional (3D) data J. Liu, China, L. Zhang, USA, X. Chen, China, and J. Niu, China</p> <p>Modeling peripheral muscle fatigue using a variable recovery rate T. Xia, USA</p> <p>The study on Astronauts' workload of typical tasks in orbit L. Wang, G. Wang, W. Huang, C. Jiang and Y. -L. Xu, P. R. China</p> <p>Grip force simulations using an instrumented cadaver forearm A. Freivalds, S. Park, J. Chang and N. Sharkey, USA</p> <p>3D functional foot A. Luximon, B. Ganesan, K.-W. Zhao and L. -K. Chan, Hong Kong</p> <p>Hand anthropometry of young Chinese males aged 18~35 years old X. Zheng, S. Ding, X. Zhang, H. Fang, T. Liu and C. Wang, China</p>

<b>176</b>	<b>Ergonomic Applications</b> Chair: M. Eksioglu, Turkey
<b>13:30-15:30</b> <b>Room 3.201</b> <b>Track PEHF</b>	<p>Ergonomic factors in cycling infrastructure revealed by driving event video recorders for bicycles and taxis in Japan S. Horino and K. Kogi, Japan</p> <p>Save the musicians! The ergonomics of the drumming M. Ekşioğlu, N. Öztürk and O. Şirin, Turkey</p> <p>Foot dynamic model for investigating foot motion during walking Q. Feng, A. Luximon and A. Chan, Hong Kong</p> <p>The use of hand-held electronic devices by pedestrians: Safe or sorry? L. Schulze, USA</p> <p>The heuristic evaluation methodology of the smartphone operating system on the user preferences and satisfaction of the security system R. -H. Kim and Y. -G. Kwon, S. Korea</p>
<b>177</b>	<b>Accident Analysis and Prevention</b> Co-Chairs: N. Stanton, UK, and H. Mackie, New Zealand
<b>13:30-15:30</b> <b>Room 3.202</b> <b>Track RR</b>	<p>Detection or appraisal – Do their eye movements reveal what causes novices' poor performance in a dynamic hazard perception test? S. Malone and R. Brünken, Germany</p> <p>Training needs research applied to the development of a standardised incident investigator training framework T. Banks, H. Biggs and N. Dovan, Australia</p> <p>The critical factors in human error that lead to express bus accidents in Malaysia S. Liew, P. Francis and C. T. Foong, Malaysia</p> <p>Cycling in Braunschweig: Characteristic crashes, crash risks, risk behaviour, and motivation for infringements of traffic regulations A. Huemer and M. Vollrath, Germany</p> <p>What is risk acceptance in the context of human error? A look at the risk acceptance criteria for railways as set by the EU B. Milius, Germany</p> <p>Predicting trade-offs between road safety, energy efficiency and emissions M. Coelho, Portugal</p>
<b>178</b>	<b>Individual Differences in Driving</b> Co-Chairs: J. Kazazi and S. Winkler, Germany
<b>13:30-15:30</b> <b>Room 2.114</b> <b>Track RR</b>	<p>Highway signs comprehension with and without context by younger and older drivers T. Ben-Bassat and D. Shinar, Israel</p> <p>Development of an inference system for drivers' driving style and workload sensitivity from their demographic characteristics T. Sato and M. Akamatsu, Japan</p> <p>One day in the life of a persona – A framework to define mobility agendas C. Mayas, S. Hörold, T. Wienke and H. Krömker, Germany</p> <p>Driving Ability Index (DAI) for assessing elderly people's performance M. Meloni, C. Pinna, L. Lecca, G. Fancello, A. Del Rio, D. Setzu, G. Costa and P. Fadda, Italy</p> <p>Automatic inference of driving task demand from visual cues of emotion and attention A. Soro and A. Rakotonirainy, Australia</p> <p>Investigating the effect of long-term worksites on road users C. Busen, A. Gerhards, M. Haberstroh, E. Skottk and, M. Oeser, Germany</p> <p>Accidents in urban areas – The effects of attention allocation and age J. Kazazi, S. Winkler and M. Vollrath, Germany</p>

<b>179</b>	<b>Experience and Performance</b> Chair: A. Naddeo and N. Cappetti, Italy
<b>Track SO</b>	<b>New trend line of research about comfort evaluation: Proposal of a framework for weighing and evaluating contributes coming from cognitive, postural and physiologic comfort perceptions</b> A. Naddeo, N. Cappetti, M. Vallone and R. Califano, Italy
<b>Room 0.310</b>	<b>Enhancing the vigilance of car drivers. A review on fatigue caused by the driving task and possible countermeasures</b> S. van Veen, Germany/The Netherlands, P. Vink, The Netherlands, M. Franz, Germany and P. -O. Wagner, Germany
<b>13:30-15:30</b>	<b>Mock-up test of two train toilet modules</b> M. Loth, D. van Eijk and J. Molenbroek, The Netherlands
	<b>A method for assessing customer's confidence in safety in a railroad company</b> K. Seki and Y. Okada, Japan
	<b>A new generation of tractor seats</b> K. Buehlmeier, J. Theurer and H. Wittmann, Germany
	<b>Comfort design through music and emotion: Effects of passengers' activities on comfort</b> A. Kruithof, V. Visch, P. Vink and O. Pedgley, The Netherlands/Turkey
	<b>Research on motivation management for project members</b> Y. Takahashi, H. Yajima, T. Dan and T. Murata, Japan
<b>180</b>	<b>Macroergonomic Innovations III</b> Chair: L. Pacholski, Poland
<b>Track SO</b>	<b>From ICT-machine determinism to a socio-ICT organic design of knowledge sharing systems</b> S. R. Atkinson, Australia, S. Carlsson, Sweden, and L. Hossain, Hong Kong
<b>Room 0.313</b>	<b>Encouraging physical activity with social influence from online social network sites</b> Y. Tian and Q. Gao, China
<b>13:30-15:30</b>	<b>A day-in-the life of a systems/software engineer 3-5 years ahead</b> M. Ericsson, Sweden, and S. Matthews, USA
	<b>Management with ergonomic indicators: A conception of indicators system for performance to the industry of construction from the workers perception</b> I. Bezerra, R. Carvalho, P. Silva, R. Vieira and T. Oliveira, Brazil
	<b>Ergonomics risk assessment by brief survey indicated the high risk on back pain among workers with sedentary works</b> P. Suggaravetsiri and S. Chaiklieng, Thailand
<b>181</b>	<b>Smart Architecture in Sustainable Design</b> Chair: W. Bonenberg, Poland
<b>Track HFSI</b>	<b>The human factor in the urbanism of medium-sized cities in Poland</b> R. Masztalski and M. Michalski, Poland
<b>Room 0.307</b>	<b>Urban-kitchen. Ergonomics and sustainability to the social complexity</b> S. Marino and S. Stasi, Italy
<b>13:30-15:30</b>	<b>Democratic culture paradigm for organizational management and leadership strategies: The company democracy model</b> E. Markopoulos, Greece, and H. Vanharanta, Poland
	<b>Golf course landscape. Designing affective outdoor spaces</b> M. Stojak, Poland
	<b>Toward environmental compatibility of structural forms</b> R. Tarczewski, Poland
	<b>Influence of selected ergonomics factors on the effectiveness of quality control. Case study</b> F. Wachowiak and A. Kujawińska, Poland

<b>182</b>	<b>Individual Engagement in Organizational Context - Theoretical and Practical Assumptions</b> Chair: K. Golonka, Poland
<b>13:30-15:30</b> Room 2.115 Track STHESCA	<p>Need for cognitive closure as a mediator of introduction of organizational change: An individual differences approach M. Chmiel and J. Maciuszek, Poland</p> <p>Work engagement and burnout - Consequences of mismatch between individual and work environment from the neural perspective K. Golonka, J. Mojsa-Kaja, M. Gawlowska and T. Marek, Poland</p> <p>How cognitive complexity and need for closure determine individual differences in implicit leadership theories B. Bajcar, J. Babiak and C. Nosal, Poland</p> <p>Team communication evaluation method for assessing the smoothness of task flow K. Nonose, T. Kanno and K. Furuta, Japan</p>
15:30-16:00 Refreshments will be provided in the foyer on the ground floor	
<b>183</b>	<b>Emotional Design and Product Longevity</b> Chair: S. Shin, USA
<b>16:00-18:00</b> Room 2.113 Track APD	<p>Toys and product longevity T. Gulden, Norway</p> <p>Design algorithm for empathy H. Park, USA</p> <p>Crafting "mementos" out of our products and designed experiences N. Poggio, USA</p> <p>Invisible boundary in design, emotional safety net C. Shin, USA</p>
<b>184</b>	<b>Human Factors Issues in Air Traffic Management IV</b> Co-Chairs: M. Kupfer, USA, and M. Ellejmi, France
<b>16:00-18:00</b> Room 2.110 Track AVI	<p>Air traffic controller workload impact by integration of Datalink system in an advanced airport controller working position M. Ellejmi, S. Dubuisson, M. Bonnier and R. Lane, France</p> <p>Air traffic controller support by speech recognition O. Ohneiser, H. Helmke, H. Ehr, H. Gürlük, M. Hössl, T. Mühlhausen, Y. Oualil, M. Schulder, A. Schmidt, A. Khan and D. Klakow, Germany</p> <p>What about the next generation? Assessing experts' judgments of human abilities required for working in a future ATC environment D. Schulze-Kissing and H. Eißfeldt, Germany</p> <p>Using complexity metrics as indicators for controller workload. Assessing the validity for planner and executive positions in Enroute Control S. Corver, Switzerland</p> <p>Evaluation of an arrival coordinator position in a terminal metering environment M. Kupfer, J. Mercer, T. Callantine, V. Gujral and A. Gomez, USA</p> <p>Identifying markers of performance decline in air traffic controllers T. Edwards, S. Sharples, B. Kirwan, J. Wilson and N. Balfe, UK/France/Ireland</p>

<b>185</b>	<b>User-Centered Design II</b> Chair: P. Thorvald, Sweden
16:00-18:00 Room 0.101 Track CN	<p>A study of iconic trademark identities S. -Y. Chiang, China</p> <p>Mental models of eco-driving: Comparison of driving styles in a simulator S. Pampel, S. Jamson, D. Hibberd and Y. Barnard, UK</p> <p>Innovative shift ergonomics interventions to reduce the performance decrements associated with night shift work: A laboratory-based investigation J. Davy and M. Göbel, South Africa</p> <p>Investigating benefits of likelihood alarm systems over binary alarm systems M. Balaud and D. Manzey, Germany</p> <p>Application of Kansei engineering type I in the development of sneakers in a group of students of product design A. Gabardo and V. El Marghani, Brazil</p> <p>Context aware interruptions: Existing research and required research A. Kolbeinsson, P. Thorvald and J. Lindblom, Sweden</p>
<b>186</b>	<b>Ergonomics, Assistive Technology, Disability and Obesity</b> Co-Chairs: G. Bourmaud and X. Retaux, France, and J. Guilherme Santa Rosa, Brazil
16:00-18:00 Room 1.112 Track ED/EMUSP	<p>Cognitive ergonomics in interface design for rehabilitation of patients with sequel of strokes J. Guilherme Santa Rosa, A. Pereira, Jr. and A. Rebouças, Brazil</p> <p>Users' perceptions on mobility, comfort and usability of manual wheelchairs F. Medola, S. Gama, V. Elui, L. Paschoarelli and C. Fortulan, Brazil</p> <p>Keeping people with disabilities in employment: Designing a new balance of the working environment G. Bourmaud and X. Retaux, France</p> <p>The establishment and evaluation of a multi-learning system to assist the congenitally blind to use the Boshiamy Method to input Chinese characters T. H. Weng, S.-L. Hwang and J. -L. Wang, Taiwan</p> <p>Scaling of tactile models for the memorial of justice of Pernambuco, Recife/Brazil T. de Jesus Silva, Brazil</p> <p>The employment of senior citizens in Singapore B. Peacock, C. Y. Ping, S. Low, P. C. Kai and L. S. Khim, Singapore</p> <p>A general model for adapting workplace conditions to people with disabilities J. Barcenilla, D. Aissaoui and C. Tijus, France</p>
<b>187</b>	<b>Ergonomics for Healthcare and Childcare</b> Chair: J. Waldron, Colombia
16:00-18:00 Room 1.113 Track ED/EMUSP	<p>Designing a tool to support patient safety: Using research to inform a proactive approach to healthcare facility design E. Taylor, A. Joseph, X. Quan and U. Nanda, USA</p> <p>Ergonomic design of an anesthesiologists' workspace H. Itzkowitz, Y. Katz and Y. R. Lifshitz, Israel</p> <p>Design solutions for neurological subjects workplace accommodation F. Draicchio, A. Ranavolo and A. Silvetti, Italy</p> <p>Gender and ergonomics: The recognition of women's occupational diseases S. Salerno, Italy</p> <p>The minimum area required for children aged between 3 and 5 years old in a kindergarten J. Waldron, A. Garcia, C. Bedoya, L. Cuervo, L. Marin and C. Morales, Colombia</p> <p>Evaluation of the occupied area of children aged between 3 and 5 years old in different kindergarten spaces A. Garcia, J. Waldron, C. Bedoya, L. Cuervo, L. Marin and C. Morales, Colombia</p>



<b>188</b>	<b>Ergonomics Investment and Safety</b> Chair: L. Guimaraes, Brazil
16:00-18:00 Room 1.111 Track ED/EMUSP	<p><b>Design of protective clothing: Discussing the Brazilian projects with significant ergonomic attributes</b> M. Menezes, C. Leite da Silva and J. Santos, Brazil</p> <p><b>An introduction about the usability of protective clothing: A historical analysis</b> C. Leite da Silva, P. Landim and J. Santos, Brazil</p> <p><b>The impact of design overkill versus ergonomic considerations - Men's jeans trousers</b> M. Lima and L. Paschoarelli, Brazil</p> <p><b>Open innovation and prospective ergonomics for smart clothes</b> C. Tijus, J. Barcenilla, M. Rougeaux and F. Jouen, France</p> <p><b>Civil defense volunteers calling for helping in disasters situation</b> L. Guimaraes, R. Bitencourt, C. Feijo and G. Izumi, Brazil</p> <p><b>Technically challenging human factors issues for a policy argumentation approach</b> D. Spiliotopoulos and A. Dalianis, Greece</p>
<b>189</b>	<b>Developing Talent (Adaptive Innovators) for the Service Science Enterprise</b> Co-Chairs: P. Gardner and J. Spohrer, USA
16:00-18:00 Room 3.112 Track HSSE	<p><b>Service economy, knowledge, and the need for T-shaped innovators</b> S. Barile, M. Saviano and C. Simone, Italy</p> <p><b>Measuring young T-shaped professionals: A case study</b> P. Gardner, USA</p> <p><b>A model For developing the design of mobile web services based on Payne's model: MARDI's case study</b> Y. Yahya, D. Endam and M. Mukthar, Malaysia</p> <p><b>The T-shape summit: Cultivating T's in undergraduate education</b> J. Spohrer and P. Gardner, USA</p> <p><b>Measuring T-shapes for ISSIP professional development</b> J. Spohrer and L. Freund, USA</p> <p><b>Making the elephant dance: The drive for innovation in large-scale software-intensive systems</b> A. Brown, UK</p> <p><b>Service Innovator: Is that a hipster geek in a suit?</b> S. Kwan, USA</p>
<b>190</b>	<b>Applied Ergonomics in Manufacturing II</b> Chair: J. Rymaniak, Poland
16:00-18:00 Room 3.111 Track MFG	<p><b>Maintenance activities and inter-firm relationships. Ergonomic analyses in a public transport company</b> C. Grusenmeyer, France</p> <p><b>Demographic factors affecting perceived fatigue levels among CNC lathe operators</b> J. Arellano, J. Perez, A. Macías and J. Alcaraz, Mexico</p> <p><b>Study on the human factors for an advanced picking station</b> E. Y. Lee, M. K. Kim, M. Y. Yang and Y. S. Chang, Korea</p> <p><b>Human aspects of the measurement system analysis</b> M. Diering and A. Kujawińska, Poland</p> <p><b>Capability, profit or waste? Organizational and economic dilemmas criteria for measuring the effectiveness of enterprises</b> J. Rymaniak, Poland</p>

<b>191</b>	<b>Physical Ergonomics and MSD</b> Co-Chairs: Z. Roja and H. Kalkis, Latvia
<b>16:00-18:00</b> Room 0.304 Track PEHF	<p><b>Methodology of physical load risk assessment in Latvia</b> V. Kalkis, Z. Roja and H. Kalkis, Latvia</p> <p><b>Impact of physical load on workability of social caregivers</b> Z. Roja, V. Kalkis, H. Kalkis, I. Roja and J. Dundurs, Latvia</p> <p><b>Ergonomics analysis for elderly workers in Latvian food industry</b> H. Kalkis, Z. Roja, V. Kalkis and I. Rezepina, Latvia</p> <p><b>ErgoCapture – A motion capture based ergonomics risk assessment tool</b> G. Szabó, Hungary</p> <p><b>Improvement of the physical ergonomics system management in the construction industry in Latvia</b> O. Gavrilova and H. Kalkis, Latvia</p> <p><b>Work-related musculoskeletal disorders and prevention among home healthcare workers</b> A. Garg, M. Thiese, J. Kapellusch and K. Hegmann, USA</p>
<b>192</b>	<b>Physical Ergonomics and Ergonomic Analysis III</b> Chair: J. Kozey, Canada
<b>16:00-18:00</b> Room 0.102 Track PEHF	<p><b>Investigation of the effect of individual metabolic differences on workers musculoskeletal disorders</b> K. Baidya, Australia</p> <p><b>Musculoskeletal disorders of the upper limb</b> J. -P. Meyer and E. Turpin-Legendre, France</p> <p><b>Psychophysical responses of waste workers in lifting tasks at two different levels</b> F. Pacheco, M. Rodrigues and P. Monteiro, Portugal</p> <p><b>The application of ergonomics in agricultural development: A review</b> M. Khidiya and A. Bharadwaj, India</p> <p><b>Relationship of anthropometric characteristics to buoyance measures for adults wearing immersion suits designed for underwater helicopter egress</b> J. Kozey, P. Potter, D. Sweeney and A. Prayal-Brown, Canada</p>
<b>193</b>	<b>Human Factors in Rail and RLX</b> Co-Chairs: G. Larue and C. Wullems, Australia
<b>16:00-18:00</b> Room 0.104 Track RR	<p><b>Testing changes in the railway system through gaming simulation: How different types of innovations affect operators' mental models</b> J. Lo, J. van den Hoogen and S. Meijer, The Netherlands/Sweden</p> <p><b>Ergonomic studies in a maintenance workshop of axes of metro trains</b> V. Vasconcelos and L. Vergara, Brazil</p> <p><b>Drivers' over-trust on advanced driver assistance systems on passively protected railway level crossings</b> G. Larue and A. Rakotonirainy, Australia</p> <p><b>Effects of driver familiarity and prolonged or intermittent right-side failure on level crossing safety</b> C. Wullems, N. Haworth, G. Larue, A. Haines and M. Gildersleeve, Australia</p> <p><b>Train accidents at level crossings in Indonesia - A preliminary study</b> H. Iridiastadi and A. Umyati, Indonesia</p> <p><b>An evaluation of a national rail suicide prevention programme</b> A. Mills, T. Flint and A. Monk, UK</p>

<b>194</b>	<b>System Design and Evaluation III</b> Chair: K. Maier, Germany
<b>Track RR</b> <b>Room 0.105</b> <b>16:00-18:00</b>	<p><b>A visuohaptic collision warning approach for high-priority braking scenarios</b> K. Maier, J. Hellbrück and H. Sacher, Germany</p> <p><b>User-oriented, situational warnings – how to warn the driver in urban areas?</b> S. Winkler, J. Kazazi and M. Vollrath, Germany</p> <p><b>DriveLab: Understanding driving behavior made easy</b> T. Heffelaar, B. van Mil, J. Kuipers, J. Andersson, L. Wiertz and L. Noldus, The Netherlands/Sweden</p> <p><b>Capturing smart in-vehicle systems' requirements through simulation</b> A. Gregoriades, M. Pampaka, C. Florides and S. Christodoulou, Cyprus/UK</p>
<b>195</b>	<b>Naturalistic and Simulator HF Driving Communities</b> Co-Chairs: G. Burnett, UK, and R. Hanowski, USA
<b>Track RR</b> <b>Room 3.201</b> <b>16:00-18:00</b>	<p><b>Crash trifecta: A complex driving scenario describing crash causation</b> N. Dunn, J. Hickman and R. Hanowski, USA</p> <p><b>Comparing truck driving performance in a simulator and instrumented vehicle</b> R. Hanowski, J. Morgan, S. Soccolich and S. Tidwell, USA</p> <p><b>The development of standard protocols to improve the quality of driving simulator research</b> C. Harvey and G. Burnett, UK</p> <p><b>A presence questionnaire for understanding the driving simulator experience</b> G. Burnett, R. Donkor and S. Sharples, UK</p> <p><b>An evaluation of the use of odds ratios to estimate the association between mobile phone use and safety critical driving events</b> N. Reed, C. Hallett, S. Cynk and D. Jenkins, UK/France</p> <p><b>Lytx and naturalistic driving studies</b> R. Weiss, USA</p> <p><b>Forecasting of evolution system the driver – a vehicle – transport network – environment</b> V. Dolia, I. Ivanov, I. Sanko, D. Pankratov and Y. Kush, Ukraine</p>
<b>196</b>	<b>Psychosocial Factors, Communication and Teamwork II</b> Co-Chairs: A. Hussain and K. Case, UK
<b>Track SO</b> <b>Room 2.114</b> <b>16:00-18:00</b>	<p><b>Occupational stress in teachers and ergonomics: Literature review</b> I. de Medeiros Costa and R. Carvalho, Brazil</p> <p><b>Organizational design: Need for a socio-technical inclusive design approach to meet 21st century workforce challenges</b> A. Hussain, K. Case, K. Chatha, S. Imran, M. Imran and T. MasoodPakistan/UK</p> <p><b>The effects of occupational stress on psychological functions of nurses in China</b> D. Chang and S. Wang, China</p> <p><b>Possibilities and challenges of communication in six Finnish industrial and planning organizations</b> H. Filppa, Finland</p> <p><b>Psychosocial risk at workplace, European overview</b> E. Gábor and J. Kerek, Hungary</p> <p><b>Can HRP (heart rhythm pattern) predict social relationship between two persons?</b> S. Park, M. J. Won, S. T. Hwang, J. C. Woo and M. Whang, Korea</p> <p><b>Measurement of cognitive workload by use of combined methods including brain-computer interfaces</b> N. Ozkan and E. Kahya, Turkey</p>

<b>197</b>	<b>Ergonomics for Children, Disabled and Elderly</b> Chair: K. Fross, Poland
16:00-18:00 Room 0.310 Track HFSI	<p>Transformation of architectural and urban spaces for the creative class A. Bonenberg, Poland</p> <p>Psychological, social and cultural analysis concerning the formation and use of public sanitary facilities A. Jaglarz, Poland</p> <p>Ultralight exoskeleton walking system for heavy loaded users M. Pelczarski, Poland</p> <p>"Greenhouse of Senses" – A new quality of educational space for the blind K. Ujma-Wasowicz and K. Fross, Poland</p> <p>Comprehensive inclusive design for public transport system in Shanghai X. Han and L. Liu, China</p>
<b>198</b>	<b>Education II</b> Chair: J. Klich, Poland
16:00-18:00 Room 0.313 Track STHESCA	<p>Demographic shifts and higher education: Responses and strategies J. Klich, Poland</p> <p>Unpredictable future. The impossibility of higher education policy R. Rybkowski, Poland</p> <p>Who forms you competent? Defining and developing a competency framework for HE lecturers T. Baráth, Hungary</p> <p>Building the life-long learning competence in undergraduate engineering students with a laboratory practice in learning curve O. Oviedo-Trespacios, R. Peñabaena Niebles, R. Manjarres Ruiz, C. Luna, C. Berdugo Correa, Colombia</p>

# Closing

## Plenary Session

**18:15-18:45 - CLOSING PLENARY SESSION ROOM 0.103**

# Interactive Poster Demonstrations

**MONDAY, JULY 21, 2014**

**Poster Presentation: 10:30-12:30**

**Posters should be removed between 15:30-16:00**

Different posters will be presented on each of the two days: 21<sup>st</sup> and 22<sup>nd</sup> July 2014. Poster authors will be present at the posters during mid-morning and mid-afternoon refreshment breaks. No posters will be presented on 23<sup>rd</sup> July 2014. Posters will be located on the ground floor.

1. Vehicle emission analysis at restaurant drive-through facilities with different configurations  
K. Hill and M. Azimim, USA
2. Affective states and driving behavior of novice and young drivers  
M. Oehl and R. Höger, Germany
3. Ergonomic assessment of activities of front office worker in selected hospitality units and record related health problems  
S. Rani and M. Neha, India
4. Illness at work of hotel managers  
C. Leite and R. Carvalho, Brazil
5. Tasks Releasing Plan on Project Feeding Path  
S.-H. Chang, Taiwan
6. Development of QOC matrix- The worker's voice (part 1)  
E. Lozano-Ramos and M. Contreras-Valenzuela, Mexico
7. The data visualization design for communicating health-related information  
C.-H. Lo and J.-Y. Su, Taiwan
8. Evaluation of musculoskeletal system symptoms among offworkers and assessment of office work ergonomic risk factors  
S. Paskal, Turkey
9. A comparative study between ergonomics branches and design approaches  
R. Khorshidian, H. Naeini, S. Asadi and M. Hamavandi, Iran
10. Dual patient – Healthcare worker experience mapping and implications to information technology deployment and clinic layout  
A. Parush, M. Lourenco-Levin and C. Campbell, Canada/Israel
11. The Recognition of Icon Display of Elevator's Indicator on Gender  
M. T. Wang, Taiwan
12. Gait and safety during road crossing simulations  
E. Viera, D. Brunt, M. Gonçalves, L. Errington,  
H.-H. Lim and L. Kinsey, USA/Brazil
13. The predictive potential of driver characteristics for lane changes on urban roads  
M. Beggato, Germany
14. Work analysis and project in a Brazilian bakery  
F. Borges, M. Medeiros Neto and B. Barro, Brazil

# Interactive Poster Demonstrations

**MONDAY, JULY 21, 2014**

**Poster Presentation: 10:30-12:30**

Posters should be removed between 15:30-16:00

15. Development of a measuring routine to evaluate cognitive and biomechanical effects of postural changes in office environment  
B. Schwartz, M. Haller, A. Schrempf and K. Probst, Austria
16. A study of the impulse noise for the protecting earplug performance  
S. Chung and H. Yun, Korea
17. The evaluation of compatibility between human and mattress using EMG  
S.-J. Park, S.-N. Min, M. Subramaniam and H. Lee, Korea
18. The study of work ability for the staff of chain hair salons in central Taiwan  
Y.-C. Lin, H.-T. Lu and H.-C. Wu, Taiwan
19. Socially sustainable manufacturing for the factories of the future (SO SMART)  
C. Berlin, C. Adams, P. Fantini, K. Georgoulas, M. Lanz, G. Schönborn, C. Hanisch, J. Stahre, R. Tuokko, C. Dederig, M. Butti and M. Taisch, Sweden/Italy/Finland
20. Predicted longitudinal driving assistance system by indicating evaluation index at rear end of preceding vehicle  
Y. Marumo, T. Nakano and H. Suzuki, Japan
21. Cars of the future or relics of the past? Conflicting images of electric vehicles in the mainstream market  
N. King, M. Burgess and M. Harris, UK
22. The relationships between environmental and physiological heat Stress indices in Muslim women under the controlled thermal conditions  
H. Dehghan, Iran
23. Macro and microergonomic analysis: A comparative study in an industry sector of paper and cellulose  
E. de Souza, R. Bitencourt, E. Sáenz, F. Nicolao and O. Junior, Brazil
24. Design of wearable product for protecting pelvis from falls  
K. T. Jung, S. M. Kim, K. J. Chun and J. S. Hong, Korea
25. The discussion of the value to be co-creation in service - In terms of "the monetary economics" "the attention economy" and "the reputation economy"  
A. Kondo, Japan
26. Usability evaluation of medical devices from user perspective  
D. Schubert, J. Muehlstedt and A. Bullinger, Germany
27. Development and evaluation of a computer based training program for driver education  
J. Hilz, S. Malone and R. Bruenken, Germany
28. OpDesign – A study of the working environment in an operating unit  
G. Johansson, Sweden
29. How 3-D-displays in ATC permit direct event perception  
A. Baier and A. Zimmer, Germany



# Interactive Poster Demonstrations

**MONDAY, JULY 21, 2014**

**Poster Presentation: 10:30-12:30**

Posters should be removed between 15:30-16:00

30. A study on the characteristics of the operation of two-dimensional GUI using hand gestures by young and elderly people—does Fitts' Law apply to the pointing and the drag-and-drop tasks?  
Y. Moriyama, M. Karashima and H. Nishiguchi, Japan
31. The study of office chair comfort related to physiological index  
Y. Kanki, K. Morimoto, N. Kuwahara and Y. Kuroiwa, Japan
32. Relationships between resilience, stressors, and athlete burnout among Japanese university athletes  
A. Kamimura, Y. Kawata, K. Yamada, K. Oki and M. Hirose, Japan
33. Method for enhancing the process of shopping for people with disabilities  
P. Chynał and J. Sobecki, Poland
34. Chronoergonomics: Introducing time factor into design of work settings  
H. Oginska and K. Oginska-Bruchal, Poland
35. The relative age effect on physical size and motivation for sports continuity among 11–12-year-old track and field athletes  
S. Izutsu, Y. Kawata, A. Kamimura, K. Yamada and M. Hirose, Japan
36. Between ergonomic requirements and physiological opportunities – interplay in Saccadometer design  
W. Gryncewicz, J. Dylak, P. Czarnecki, D. Witkowska, J. Łopatka, M. Perdziak and J. Ober, Poland
37. Car projector: A children's toy for fostering creativity  
B.-K. Jeong and M. Chen, Portugal
38. New device design in emergency medicine: Real-time intra-articular pressure monitoring device of the shoulder joint  
K. Gielo-Perczak, J. Höfer, O. Manoukian, K. Bagshaw and V. Zlatev, USA/Germany
39. A relation between a fatigue subjective symptoms score and ECG in the long time PC work  
H. Tanaka and M. Shiba, Japan
40. Ergonomic education for the conceptual age—A new educational paradigm  
What it is? Why it is needed? How did it develop? Are there examples?  
C. Barsky, M. Ekiel-Jezewska and S. Glazek, USA/Poland
41. Belbin's team's roles theory in estimation of success' goals of the managers in building sector  
K. Pruszyński and B. Jacek-Drabik, Poland

# Interactive Poster Demonstrations

**MONDAY, JULY 21, 2014**

**Poster Presentation: 13:30-15:30**

Posters should be removed between 15:30-16:00

42. Analysis of a transfer device for horizontal transfers and repositioning on an ICU: Effects on the quality of care and the quality of work  
H. Knibbe, M. Onrust, W. Dieperink and J. Zijlstra, The Netherlands
43. How many trials are needed in a psychophysics experiment for discriminating visual perception of height differences: Designing proper evaluation procedure  
F. Foltran, C. Moriguchi de Castro, C. Coury and H. Coury, Brazil
44. Evaluation of working postures in Mexican rural workers and their effect on musculoskeletal discomfort  
A. Gómez-Carrillo and E. Luz González-Muñoz, Mexico
45. The challenge of early mobilization on the intensive care unit: The ergonomic opportunities and barriers  
H. Knibbe, N. Knibbe and E. Waaijer, The Netherlands
46. If design works, where's the proof? Case study on a successful tie-up between design and technology researchers in a U.S. academic research set-up  
A. Surve, USA
47. Working conditions in the sector of urban passenger transport in the Metropolitan Region of Recife  
B. Barkokébas, Jr., A. Pinto, L. Martins, E. Lago, F. da Cruz and B. Guimarães, Brazil
48. Ergonomics of restaurants environment  
T. Khare, India
49. The creation of a database of the applied anthropomorphic dimensions of the student population of different ethnic groups in the Lorestan Province of Iran applicable in the production of chairs and desks  
A. Almasian and R. Rashidi, Iran
50. Computing, human decision making and a decision making algorithm and data structure, the 'Suffix' decision tree  
C. Derow, USA
51. The occlusion method for measuring visual demand at the IT-based driver's workplace  
M. Bretschneider-Hagemes, Germany
52. Work-related musculoskeletal disorders among physical therapists: A systematic review  
E. Vieira, D. Brunt, I. Gadotti, P. Schneider and C. Guidera, USA
53. Ergonomic problems in Japan's medical air transportation services  
K. Shinohara, Japan
54. Tactile alert signals for advanced driver assistance systems using seat vibrations  
M. Okuwa, A. Nakashima and N. Fujieda, Japan

# Interactive Poster Demonstrations

**MONDAY, JULY 21, 2014**

**Poster Presentation: 13:30-15:30**

Posters should be removed between 15:30-16:00

55. Study on safe activity activation based on the attitude survey about the safe activity of the employee  
T. Oikawa and Y. Okada, Japan
56. Transposition of an industrial safety tool in Health Care: Lessons learned from the introduction of the World Health Organization Surgical Safety Checklist in four French healthcare facilities  
A. Vacher, Y. Auroy and R. Amalberti, France
57. The reasons of growth culpability of the human factor in traffic accidents  
V. Samsonkin, Y. Puhach and V. Druz, Ukraine
58. Evaluation of driver behavior at double-lane roundabout entry  
S. Hammond and C. Hunter, USA
59. Comparing effectiveness between an existing safety activity and a safety activity with a tablet-PC-based safety-training tool for construction workers  
A. Takahashi, M. Takagi, M. Mishina, K. Shimazaki and T. Ishida, Japan
60. How FabLabs are part of an ergonomic approach in designing technical objects?  
C. Baudin and G. Bussy, Switzerland
61. Human factors in the design of an automated packaging system  
R. Wlock, Canada
62. Training working memory to gain a better driving performance among young novice drivers  
W. Wang, E. Jongen, V. Ross, K. Brijs, T. Brijs and G. Wets, Belgium
63. Effect of disparity distribution on visual fatigue during observing stereoscopic image  
H. Izumi, N. Miyake, Y. Ushio and Y. Ichihara, Japan
64. Developing a new tool for improving hazard perception skill using change blindness task  
T. Masuda and A. Sato, Japan
65. APP design of virtual pets for caring for the elderly  
Y. R. Chou, C. Y. Huang and H. C. Hsieh, Taiwan
66. Analysing the kinetic behaviour of bus drivers while bus driving  
C. Backhaus and A. Marckwardt, Germany
67. Service-dominant logic in Japanese-style value co-creation: Cross-border deployment of high-context service strategy in the traditional Japanese inns of Kaga-ya  
K. Nakamura and H. Masuda, Japan

# Interactive Poster Demonstrations

**MONDAY, JULY 21, 2014**

**Poster Presentation: 13:30-15:30**

Posters should be removed between 15:30-16:00

68. The electromyographic and subjective responses to varying load, speed and grade combinations during uphill walking  
S. Paul, D. Bhattacharyya, T. Chatterjee, M. Pal and D. Majumdar, India
69. Effect of career support program "self-analysis seminar" on the self-efficacy of career decision making among Japanese university students in sport science  
Y. Hochi, M. Mizuno, M. Kitamura and K. Kitamura, Japan
70. Developing learning models for gesture pattern classifications based on a hand gesture taxonomy and a notation method  
E.-J. Choi, M. K. Chung and S. H. Han, South Korea
71. The anthropometric properties of virtual human models and their influence on the parameters of biophysical effects of a worker's exposure to radiofrequency electromagnetic fields  
P. Zradziński, J. Karpowicz, K. Gryz and W. Leszko, Poland
72. Physical load while handling attendant-propelled wheelchair  
N. Sato, Japan
73. Identification of human behavior conditions and construction of road safety plans in medium-sized Colombian cities  
O. Galvis, Colombia
74. Affect control simulations of cross-cultural interactions  
D. Robinson and L. Smith-Lovin, USA
75. Ergonomic assessment of job for high tonnage cranes service in the Chilean mining industry  
F. Urra, Chile
76. Anthropometry of lower limbs in the Mekong River Delta Region of Vietnam and its implications for fitting prosthetics  
L. Moody, J. Duffy and H. Vo, USA
77. The LDA classification accuracy of P300 based BCI system  
Y. Koizumi and H. Tanaka, Japan
78. Enhancing the perception of security for Android users  
J. Vera del Campo, Spain
79. Ergonomic optimization of a force feedback joystick for telerobotic applications  
B. Weber and I. Rothkirch, Germany
80. Evaluation of comfort of multi-position ergonomic computer workstation  
S. Workineh and H. Yamaura, Japan
81. Expertise and experience – important factors in usability evaluation  
S. Buzink, The Netherlands

# Interactive Poster Demonstrations

**TUESDAY, JULY 22, 2014**

**Poster Presentation: 10:30-12:30**

**Posters should be removed between 15:30-16:00**

82. Health related factors in traffic accident investigation  
R. Rimstad and A. Lindstad, Norway
83. Fire accidents: An opportunity for organizational learning  
M. Loufti, I. Almeida and R. Vilela, Brazil
84. Work accident in lawn mowing – Loss of collective knowledge promoted by organizational management  
I. Almeida, E. Buoso and A. Passarin, Brazil
85. User empowerment in telehealth practice: The TeleSCoPE project approach  
S. Tabozzi, M. Fisk, F. Lievens, D. Di Pasquale, N. Paraciani and C. Lafortuna, Italy/UK/  
Belgium
86. Cell phone conversations with hands-free devices interfering with cognition of visual information while driving  
A. Takano, H. Nishiguchi and M. Karashima, Japan
87. Ergonomic design of labor garments and the perception of comfort/ discomfort: A discussion about project guidelines  
R. Alves, L. Martins and S. Martins, Brazil
88. Choosing routes and looking around carefully: Aspects of security management in behavior of nonprofessional motorcyclists  
A. Golias and I. Almeida, Brazil
89. Ergonomics intervention among football players  
A. Kawczyński, P. Madeleine, A. Samani, D. Mroczek and J. Chmura, Poland/  
Denmark
90. Establishing threshold for visual discrimination of height in pictorial human body  
C. Coury, F. Foltran, C. Moriguchi de Castro and H. Coury, Brazil
91. Development of BAC consumption and related structure equation model on Korean driver  
S. Chung, Korea
92. Head and neck posture, performance and discomfort during laptop typing  
I. Gadotti, E. Vieira, D. Frisch, B. Dubrow and J. Fernandez, USA
93. First steps using a basic driving simulator for the evaluation of failures in coordinating alignment of a geometric project of highways  
A. P. Larocca, A. da Cruz Figueira, A. L. Martins Torres and M. Andrés Castillo, Brazil
94. Quantitative techniques integration for allocation of workers  
G. Montoya, Colombia
95. Comparison of fuel economy over different drive cycles each having the same average speed  
A. McGordon, S. Birrell, J. Poxon and P. Jennings, UK

# Interactive Poster Demonstrations

**TUESDAY, JULY 22, 2014**

**Poster Presentation: 10:30-12:30**

Posters should be removed between 15:30-16:00

96. Validation of a new automatic drowsiness quantification system for drivers  
J. Wertz, C. François, J. Verly, Belgium
97. The probability of accidents under visual distraction  
K. Suzuki, Japan
98. Learning driven collaboration management for unstructured service processes  
A. Obata and N. Kobayashi, Japan
99. Spatial representation of complex traffic configurations at traffic-signal-controlled urban intersections: The empirical and conceptual basis for the development of adaptive driver assistance systems  
R. Kaul and F. Lethaus, Germany
100. Change of ultrasound echo image texture in fatigued muscle  
S. Muraki, D. Ogawa and O. Fukuda, Japan
101. A survey study of musculoskeletal disorders in rice basketwork  
N. Rodjanapan, O. Buranruk and P. Wongchai, Thailand
102. IT disability: Concepts, categories, and characteristics  
H. Kim and S. Han, Korea
103. A survey on applications of sensor based context-aware mobile device  
J. Park, S. H. Han, H.-K. Kim, H.-Y. Moon, B. Kang, D.-Y. Jeong and K. Choi, Korea
104. A seemingly irrational aberrant driving behavior model: A case of Taiwanese young motorcyclists' speeding behaviors  
Y.-S. Chung, Taiwan
105. Defining the user experience of the disabled in using mobile phones and services  
H. Bang, S. H. Han, H. K. Kim and M. Lee, Korea
106. Electrical safety in the North Sea. An introduction to non-technical skills in the oil and gas Industry  
S. Moffat, UK
107. Towards a tool supporting design of system status in highly automated vehicles  
A. Szymaszek and M. Nilsson, Sweden
108. A study of typing efficiency to the ergonomics keyboard key size of desktop computer  
C.-C. Lai and J.-Y. Wang, Taiwan
109. A study of gender effect on the maximum grip strength of pliers  
K.-H. Choi, Y.-K. Kong and D.-M. Kim, Korea



# Interactive Poster Demonstrations

**TUESDAY, JULY 22, 2014**

**Poster Presentation: 10:30-12:30**

Posters should be removed between 15:30-16:00

110. Complex assessment of ergonomic exposures, musculoskeletal health and intervention effect in patient handling  
F. Kudász, K. Cseh, I. Nagy and G. Szabó, Hungary
111. Development of an ergonomic body posture assessment tool for agricultural tasks  
D.-M. Kim, Y.-K. Kong, K.-H. Choi and K.-R. Kim, Korea
112. Effect part time work on cognitive stressors among Japanese sports university students  
K. Oki, A. Kamimura, K. Yamada, Y. Kawata and M. Hirokawa, Japan
113. Touchless interface for viewing medical images based on the movement of the hands  
J. Cabral, J. P. Cabral and C. Diaz, Brazil
114. Designing user emotion - psychological mechanisms of hedonic experience  
K. Oginska-Bruchal and H. Oginska, Poland
115. Auto-landmarking body shape scans  
S. Yamazaki, M. Kouchi and M. Mochimaru, Japan
116. Optimization of machine parameters of drudgery free motorized thresher using RSM  
D. Singh and D. Vinay, India
117. Learning effect of the switch operation by motor imagery training with brain-computer interface  
T. Enomae and H. Tanaka, Japan
118. Towards developing a flexible service-operation-estimation system for efficient service-process analysis  
K. Kato, R. Tenmoku, K. Makita and T. Kurata, Japan
119. UPAD toolkit and service database for service design  
K. Watanabe, K. Fukuda, T. Nishimura and Y. Motomura, Japan
120. The analysis of multiculturalism in the context of development of academic spin-off companies in the United States of America  
A. Szopa and J. Bandoła, Poland
121. Young drivers risk perception in the Czech Republic  
P. Řezáč, V. Kureckova and P. Zámečník, Czech Republic
122. Psychological aspects of the first aid giving  
V. Kureckova, P. Řezáč and P. Zámečník, Czech Republic

# Interactive Poster Demonstrations

**TUESDAY, JULY 22, 2014**

**Poster Presentation: 13:30-15:30**

Posters should be removed between 15:30-16:00

123. Product design for increasing children pleasure during intravenous therapy in hospitals  
B. Eslami Arshaghi, Iran
124. A field study on the children satisfaction of physical environment of hospitals and investigation of design problems and requirements  
B. Eslami Arshaghi and H. Naeini, Iran
125. Formative intervention to change the school health center activity  
S. Costa, R. Vilela, M. Querol, M. Cassandre and M. Lopes, Brazil
126. A suggestion on the development of children's safe clothes design using complementary colors effect  
Y.-H. Lee, K.-B. Min, J.-E. Kim, Y.-L. Kim and E.-C. Jung, Korea
127. Ergonomic design: A research line in human-technology interfaces  
L. Paschoarelli, Brazil
128. Ergonomic analysis regarding the space arrangement in the working environment of the dentist  
E. Orenha, W. Naressi, S. Naressi, S. Teixeira, E. Rosetti, B. Porfirio, Jr., A. Soares and M. Meneghim, Brazil
129. Ergonomic analysis of dental equipment  
E. Orenha, W. Naressi, S. Naressi, S. Teixeira, E. Rosetti, N. Miguel, A. Soares and M. Meneghim, Brazil
130. Factors associated with spinal disorders among visual display unit workers  
K. Takekewa, J. Gonçalves, F. Foltran, C. Moriguchi, A. Oliveira and T. Sato, Brazil
131. Effects of the pneumatic pad on the migration and biomechanics of the anterior cruciate ligament knee brace during different movements  
W.-H. Hong, Taiwan
132. Testing the cognitive load of gesture interaction on drivers when performing tertiary tasks  
X. Wu and Y. M. Choi, USA
133. PUMA - development and application of a tool for supporting nuclear power plant operating teams in unexpected and unknown situations  
J. Brüngger, C. Kleindienst, J. Koch and F. Ritz, Switzerland
134. Gameful improvement of older adults' interaction with information and communication technology  
D. Cymek, M. Minge and J. Bürglen, Germany
135. Development of a concept for ergonomic design and work organization of remote lock operation centers  
J. Bützler, F. Motz, A. Mertens, H. Horoufchin, C. Broehl, N. Jochems and C. Schlick, Germany

# Interactive Poster Demonstrations

**TUESDAY, JULY 22, 2014**

**Poster Presentation: 13:30-15:30**

Posters should be removed between 15:30-16:00

136. Effect of low-amplitude oscillation applied to the control device of a tracking operation  
H. Mukae and A. Yasukouchi, Japan
137. A real-time scoring technique of human operator situation awareness  
F. Fortmann, Germany
138. Analysis of baggage handling in cargo hold of commercial airplane: A case study in ergonomics  
A. Pinto, F. Silva Júnior, D. Reis, L. Gontijo and A. Moro, Brazil
139. The effect of touch-based interaction on editing performance and preference for older users  
D.-Y. Lin, Taiwan
140. Multiplicatory relationship between cognitive sub-factors in order to produce a single cognitive factor in a driver model  
F. Lethaus and R. Kaul, Germany
141. Effect of bluish morning light on light-induced melatonin suppression at nighttime  
T. Kozaki, R. Taketomi, K. Hatae, A. Kubokawa and Y. Kusano, Japan
142. Pain level and pain management of upper back in basketwork occupation  
P. Wongchai, O. Buranruk and N. Rodjanapan, Thailand
143. How to handle a disabled person aboard an aeroplane? - A practice approach to reduce flight attendance's musculoskeletal workload  
C. Backhaus, B. Beck and M. Jaeger, Germany
144. Three avant-garde technologies implemented in a large biotechnology company were proven to be worthwhile investments in reducing risk factors for injury  
A. Yagjian, USA
145. Muscular fatigue and recovery after a heavy work bout in the heat: Comparison of four recovery interventions in firefighters  
S. Mänttari, S. Rissanen, H. Rintamäki and J. Oksa, Finland
146. WBGT heat stress measurements field and research perspectives in Portugal  
D. Quintela, A. Gaspar and A. Virgilio Oliveira, Portugal
147. Proposal of support tool for key input performance improvement of software keyboard  
T. Haga, Y. Yanai, H. Nishiguchi and M. Karashima, Japan
148. Development of healthcare mobile application to sphygmomanometer for the elderly  
H. T. Keng and H. C. Hsieh, Taiwan
149. What does ecological validation mean in transportation safety research?  
L. Page, M. Velazquez and D. Claudio, USA

# Interactive Poster Demonstrations

**TUESDAY, JULY 22, 2014**

**Poster Presentation: 13:30-15:30**

Posters should be removed between 15:30-16:00

150. Decomposition of handling force data for push button switch using wavelet transform  
A. Sugama, A. Ohnishi, M. Takagi and A. Seo, Japan
151. Physiological decision making – closing the loop between the operator’s brain and controlled environment  
J. Ober, D. Witkowska, P. Czarnecki, W. Gryncewicz, M. Perdziak and J. Łopatka, Poland
152. The relationship between career decision making self-efficacy and social support among Junior in University  
M. Kitamura and M. Mizuno, Japan
153. Bit-to-Ink: Design of a new communication device for a pleasurable user experience  
P.-A. Donnet and C. Mougnot, Japan
154. Development of an ergonomic evaluation system for automatic task simulation in digital human models  
M. Spitzhirm and A. Bullinger, Germany
155. Towards the development of a human factors-safety behaviour structural model  
T. Mariri, South Africa
156. Modelling ship bridge systems for assessment of situation awareness during design time  
C. Denker, R. Droste, C. Sobiech and X. Hahn, Germany
157. Effects of the post impact stability control system on driving behaviour: An example of the interaction between in-vehicle autonomous systems and drivers  
X. Xie, China and I. C. Karlsson, Sweden
158. Eye-hand coordination in “Spot The Difference” game  
M. Chen, Portugal
159. Research on identifying LED blocks mounted on crosswalk boundaries for persons with visually impairment  
S. Fujisawa, N. Ikeda, K. Takahashi, T. Inagaki, K. Sato, S.-I. Ito and M. Seiyama, Japan
160. The prevalence of work-related musculoskeletal disorders and risk factors among tea agriculture workers in turkey  
E. Ozcan, A. Baskent, G. Can and M. Topbas, Turkey
161. Common concept for ergonomics / Human factors education in Switzerland  
T. Van Nederveen, Switzerland
162. Assessment of the body posture during manual material handling using the Kinect(R) camera  
N. Suzaly, Germany

# Scientific Program Boards

## HUMAN ASPECTS OF ADVANCED MANUFACTURING

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C. Guedes Soares, Portugal  
F. Guldenmund,  
The Netherlands  
C. Jacinto, Portugal  
T. Larsson, Sweden  
R. Matos, Brazil  
J. Meliá, Spain  
R. B. Melo, Portugal  
M. Menozzi, Switzerland  
A. Rodrigues Miguel, Portugal  
J. C. Rubio-Romero, Spain  
I. Santos, Brazil  
J. Santos Baptista, Portugal  
M. Shahriari, Turkey  
S. A. Silva, Portugal  
P. Swuste, The Netherlands  
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# Scientific Program Boards

## APPLIED DIGITAL HUMAN MODELING

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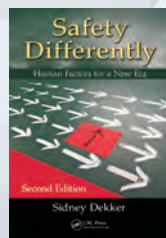
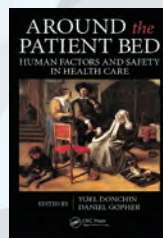
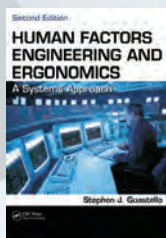
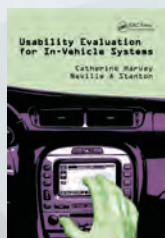
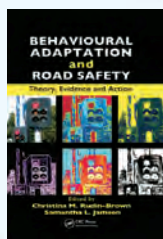
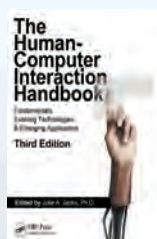
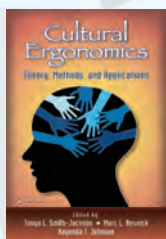
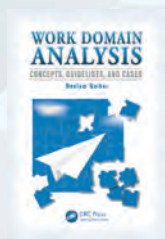
located in the foyer on the ground floor

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## EXHIBITION HOURS

EXHIBITOR SETUP: MONDAY, 21 JULY, 7:30 -10:30  
 EXHIBITS HOURS ON MONDAY, 21 JULY, 11:00 TO 17:00  
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# Transportation in Kraków

For more information about tram transportation in Krakow please see these websites:  
<http://www.mpk.krakow.pl/en/>  
<http://www.mpk.krakow.pl/en/network-maps/>

## TRANSPORTATION BY iCAR TAXI

iCar taxi has been selected as the official taxi for the conference participants. The one way trip from the hotels near the old town (city centre) to the new UJ Campus (Lojasiewicza street 4) costs about 18 - 21 PLN (if 3 people share a taxi, then each person will pay only 6-7 PLN (2 - 2.3 USD)).

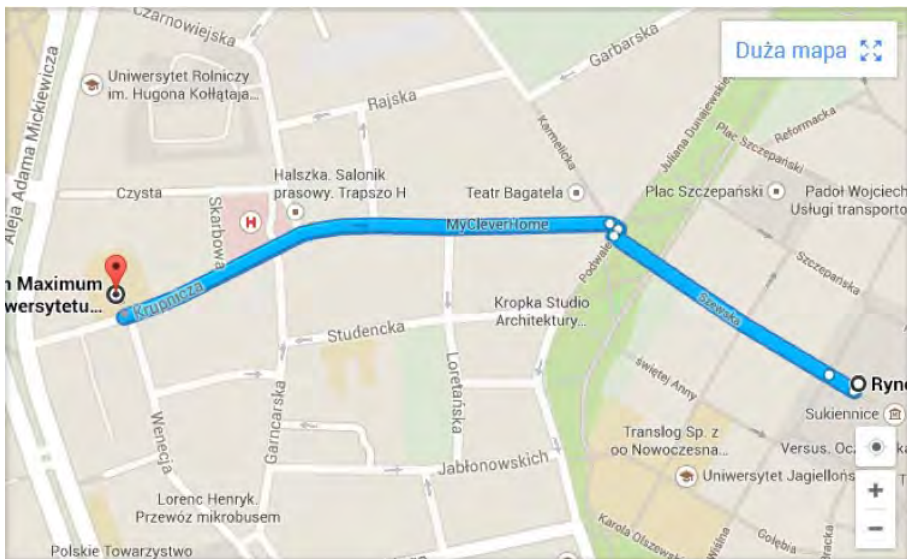
**PLEASE ASK YOUR HOTEL RECEPTION DESK TO CALL FOR YOU AND ORDER iCAR TAXI USING THIS LOCAL NUMBER: (12) 653 5555**



## A WALK FROM THE MAIN SQUARE TO AUDITORIUM MAXIMUM (MAP 1)

1. Go to Szewska Street and walk for 290 m (0,18 miles).
2. Cross Podwale / Dunajewskiego Street and walk for 9 m (0.006 mile) into Karmelicka Street.
3. In front of "Bagatela Theatre" turn slightly left to Krupnicza Street.
4. Walk for 550 m (0,34 mile). Auditorium Maximum will be on your right.





Map 1

## TRANSPORTATION BY TRAM

### FROM THE MAIN SQUARE TO JAGIELLONIAN UNIVERSITY NEW CAMPUS

1. Turn to Sienna street and walk for 350 meters (0,2 miles). Then reach the Poczta Główna stop (**see picture 5**).
2. Take tram line 52 or 18 (direction Czerwone Maki) until stop Norymberska (it is 11th tram stop **see picture 2**)
3. Get off the tram turn left and go down Grota Roweckiego Street about 150 m (0,09 mile) then take the first street right (Stanisława Łojasiewicza Street) and continue walking, after about 100 m (0,06 mile) you will see the building of Faculty of Management and Social Communication where the conference will be held.

### FROM RADISSON BLU HOTEL TO JAGIELLONIAN UNIVERSITY – NEW CAMPUS

1. Walk out of the building, turn left and go down Straszewskiego Street about 50 m (0,03 mile) pass Zwierzyniecka Street and continue going down Straszewskiego Street, after about 40 m (0,02 mile) you will find tram stop named Filharmonia (**see picture 1**)
2. Take tram line 1 (Wzgórza Krzesławickie) until stop Poczta Główna (4th stop, **picture 5**).
3. Take tram line 18 (direction Czerwone Maki) until stop Norymberska ( it is 11th tram stop - **see picture 2**; you will note a large red sign of Kaufland's store)
4. Get off the tram turn left and go down Grota Roweckiego Street about 150 m (0,09 mile) then take the first street right (Stanisława Łojasiewicza Street) and continue walking, after about 100 m (0,06 mile) you will see the building of Faculty of Management and Social Communication where the conference will be held.

### FROM JAGIELLONIAN UNIVERSITY – NEW CAMPUS TO RADISSON BLU HOTEL

1. Walk out of the building, turn left and go down Stanisława Łojasiewicza Street about 150 m(0,09 mile) pass Grota Roweckiego Street and turn left, walk along Grota Roweckiego Street, after about 200 m (0,12 mile) you will find tram stop (**see picture 3**)
2. Take tram line 18 (direction Krowodrza Górka) until stop Poczta Główna (11th stop, **see picture 6**).
3. Take tram line 1 (Salwator) until stop Filharmonia (4th stop, **see picture 4**).

4. Get off the tram, turn left, cross Straszewskiego Street and Zwierzyniecka Street, after about 50 m (0,03 mile) you will see the building of Radisson Blu Hotel.

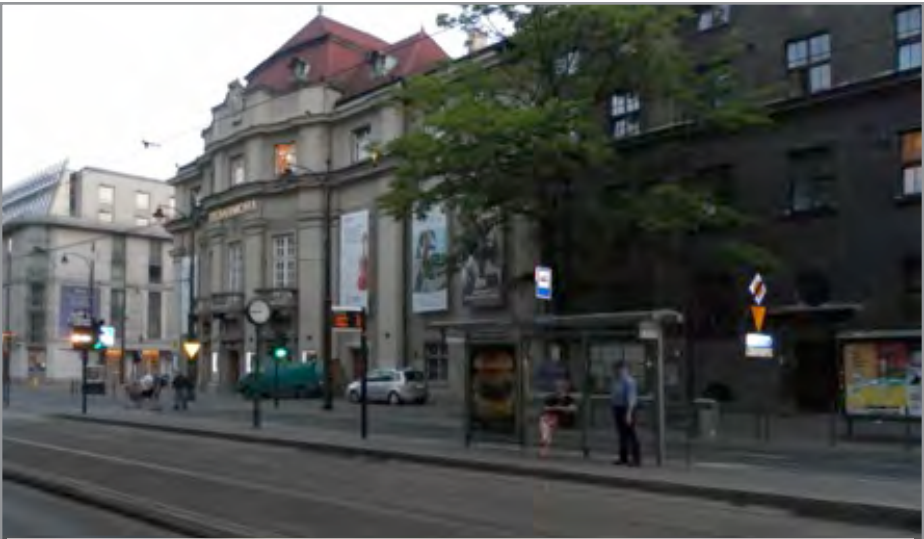
#### **FROM HOLIDAY INN HOTEL TO JAGIELLONIAN UNIVERSITY – NEW CAMPUS**

1. Walk out of the building, turn right and go down Wielopole Street about 50 m (0,03 mile) pass Westerplatte Street and will find tram stop named Poczta Główna (**see picture 5**)
2. Take tram line 52 or 18 (direction Czerwone Maki) until stop Norymberska (it is 11th tram stop **see picture 2**)
3. Get off the tram turn left and go down Grota Roweckiego Street about 150 m (0,09 mile) then take the first street right (Stanisława Łojasiewicza Street) and continue walking, after about 100 (0,06 mile) m you will see the building of Faculty of Management and Social Communication where the conference will be held.

#### **FROM JAGIELLONIAN UNIVERSITY – NEW CAMPUS TO HOLIDAY INN HOTEL**

1. Walk out of the building, turn left and go down Stanisława Łojasiewicza Street about 150 m (0,09 mile) pass Grota Roweckiego Street and turn left walk along Grota Roweckiego Street, after about 200 m (0,12 mile) you will find tram stop (**see picture 3**)
2. Take tram line 18 (direction Krowodrza Górka) or 52 (Osiedle Piastów) until stop Poczta Główna (it is 11th tram stop; see picture 6)
3. Get off the tram, turn left and go Westerplatte Street about 20 m (0,012 mile) and then take the first street right – Wielopole Street and continue walking, after about 50 m (0,03 mile) you will see the building of Holiday Inn Hotel.

**Please note that in case to get to Jagiellonian University – new campus from the city center you should take tram number 18 or 52 (direction Czerwone Maki) and get off on Norymberska tram stop The whole journey takes about 25 minutes, ticket price is 3,80 Złoty.**



**Picture 1 - Tram stop Filharmonia**



**Picture 2 - Tram stop Norymberska**



**Picture 3 - Tram stop Norymberska (direction city center)**





**Picture 4 - Tram line 1 (Salwator) 4th stop**



**Picture 5 - Tram stop Poczta Główna**



**Picture 6 - Tram line 18 or 52 11th tram stop at Poczta Główna**

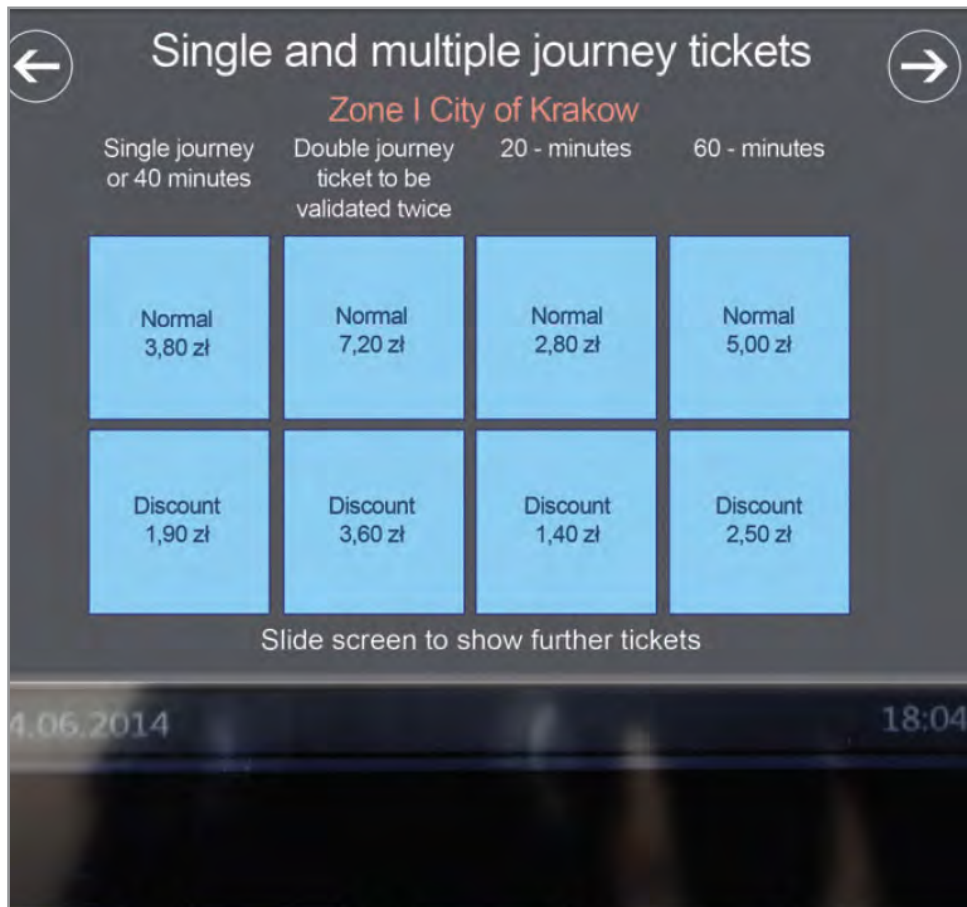
## TRAM TICKETS

Transportation by tram in Krakow is easy, convenient, and fast.

You may purchase your tram ticket in a vending machine at the tram stops or inside the tram. The cost of a single tram journey is 3.80 złotych (about 1.25 USD) - see pictures below.



The ticket should be validated in the ticket-puncher inside the tram.





printing ticket, please wait change is given

Normalny 1-przejazdowy lub 40-min., I

1 szt.

Total payment

3,80 zł

Still missing:

0,00 zł

Number of tickets: 1



04.06.2014

18:04



40 min

Zone I City of Krakow  
Normalny  
1-przejazdowy lub 40-min.

3,80 zł

N

Tu kasować

04.06.2014 18:04 113 00195  
Komunikacja Miejska w Krakowie  
Bilet z automatu - podlega skasowaniu



DIRECTIONS FROM THE HOTELS AREA TO KEYNOTE AND RECEPTION AT AUDITORIUM MAXIMUM NEAR MARKET SQUARE

Sunday, July 20, 2014 • 18:30 - 19:45



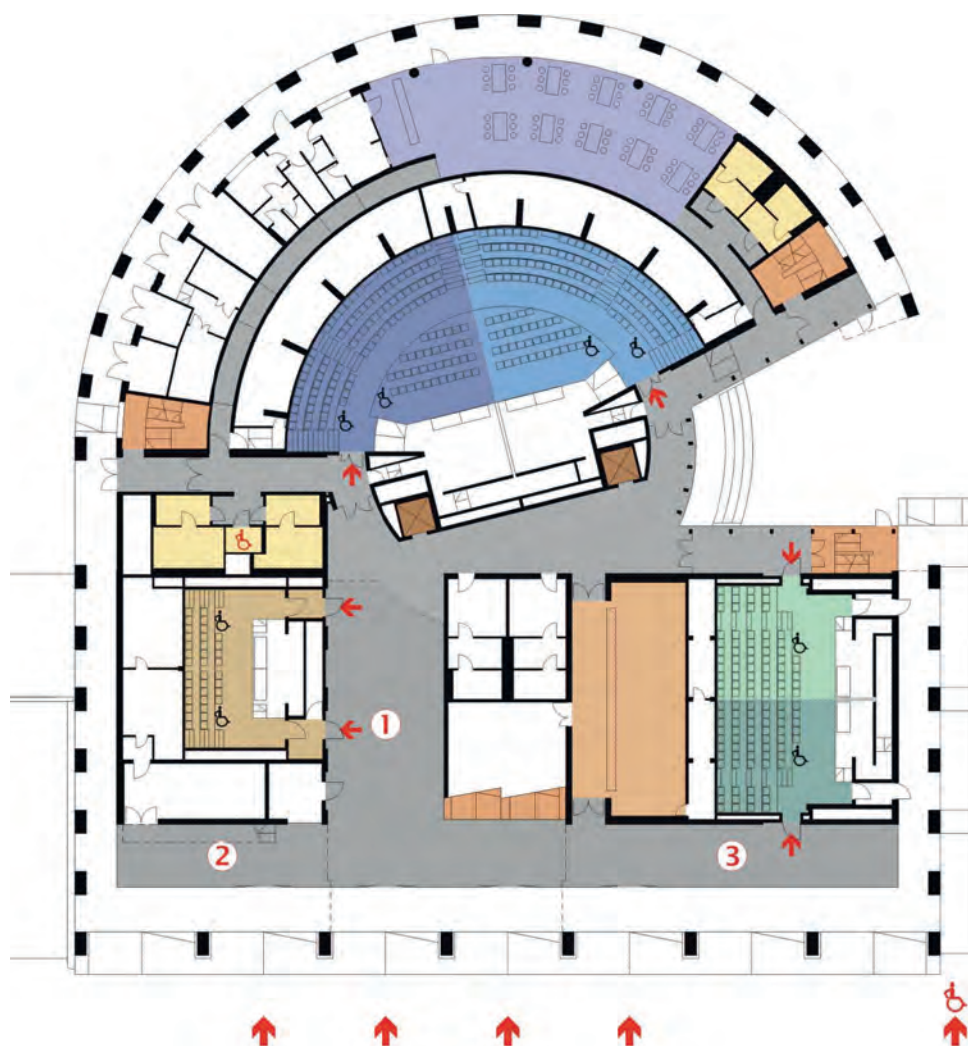
DIRECTIONS FROM THE HOTELS AREA TO THE CONFERENCE VENUE AT NEW JAGIELLONIAN UNIVERSITY CAMPUS

Monday, July 21, 2014 - Wednesday, July 23, 2014



# KEYNOTE ADDRESS AND RECEPTION WILL BE HELD AT AUDITORIUM MAXIMUM - NEAR MARKET SQUARE

Sunday, July 20, 2014 • 18:30 - 19:45  
(LOCATION: UL. KRUPNICZA 33, KRAKÓW)



## Legend — level **0**



main entrance to the building



entrances to seminar-and-conference rooms



communication space

halls

cloak-room

toilettes

staircase

lifts

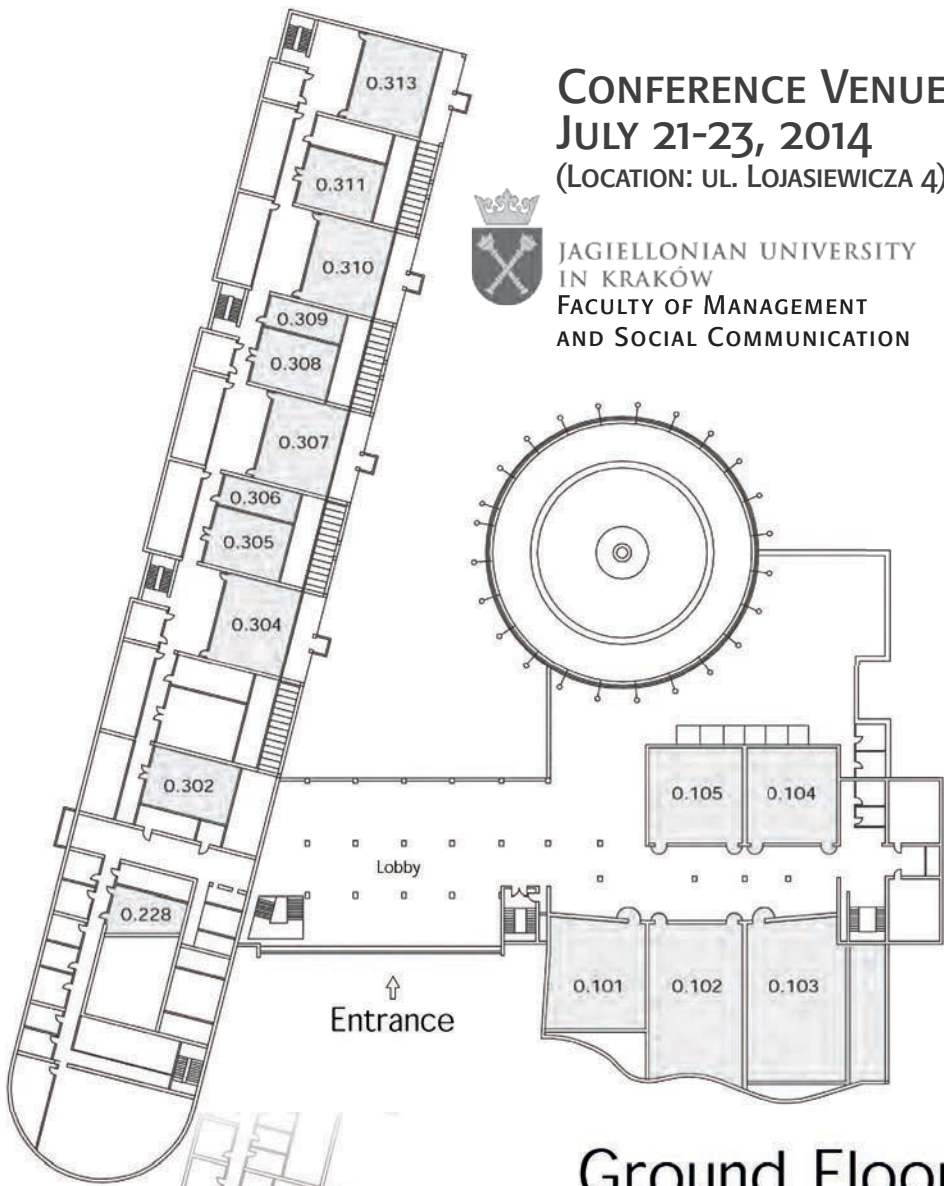
bar / restaurant



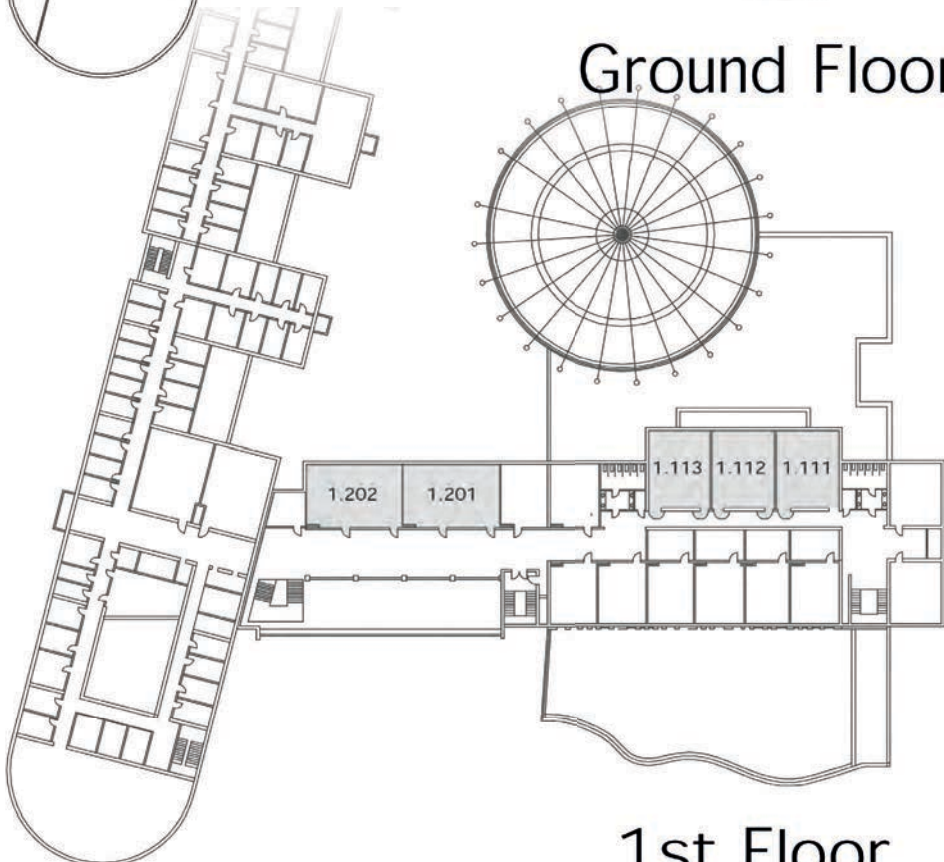
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JAGIELLONIAN UNIVERSITY  
IN KRAKÓW  
FACULTY OF MANAGEMENT  
AND SOCIAL COMMUNICATION



## Ground Floor



## 1st Floor

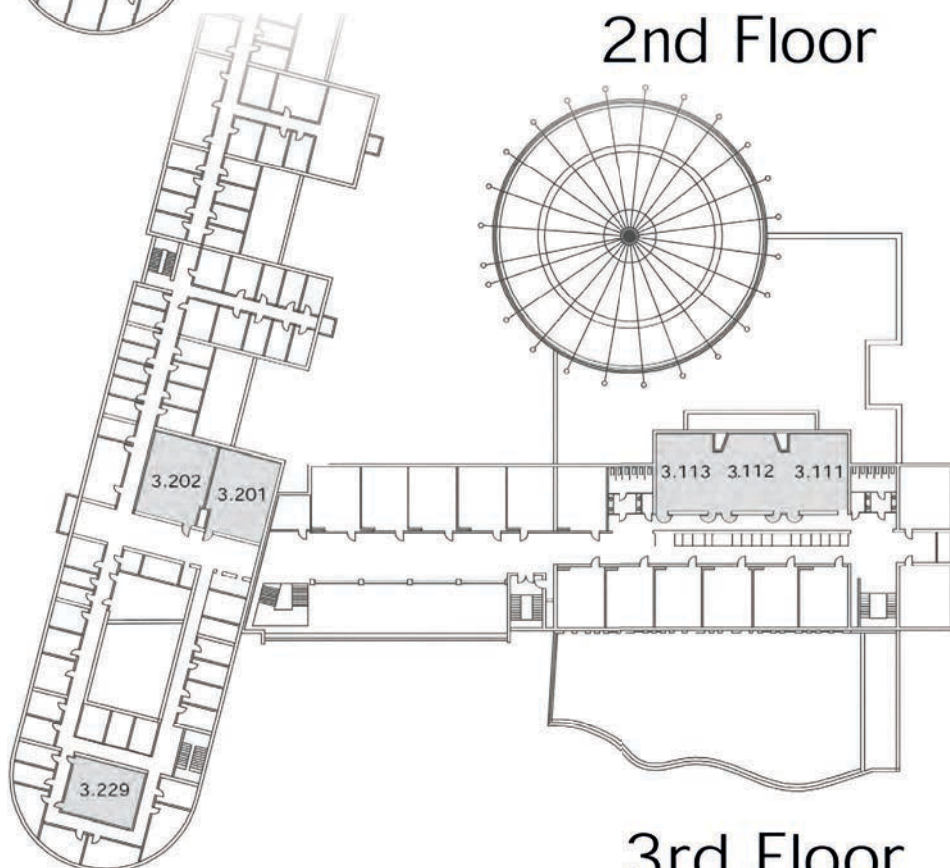
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## 2nd Floor



## 3rd Floor

# Helpful Information

<http://www.krakow.pl/english/>

## KRAKÓW EMERGENCY PHONE NUMBERS

### GENERAL EMERGENCY NUMBER FOR MOBILE PHONES – 112

**AMBULANCE – 999**

**FIRE DEPARTMENT – 998**

**POLICE – 997**

**ROAD ASSISTANCE – 981**

**MUNICIPAL GUARD – 986**

Emergency calls from phone boxes are free of charge. When using a mobile phone, remember to dial the local code before the emergency number. For example, the local code for Kraków is 12, so you would dial 12 - 997 to call the police in Kraków. If you do not know the local code, dial the general emergency number for mobile phones (112) and the operator will request the appropriate emergency unit.

We recommend using one of the direct emergency numbers (997, 999, 998) in the case of imminent danger, because the general emergency number (112) still does not work properly in some areas.

Two types of law enforcement officers are seen on the beat in Kraków—the state police and the municipal guard. The state police, known as “Policja,” is Poland's nationwide law enforcement organization, responding to the central government. It's the country's principal agency for fighting crime. Kraków's municipal guard, known as “Straz Miejska,” is a policing arm of the local government. It has limited powers and its officers largely deal with minor offenses, such as smoking at bus stops.

### POLAND CURRENCY INFORMATION:

The unit of currency in Poland is the Polish zloty (PLN, symbol: zł).

1 zł = 100 groszy. Current exchange rate USD/EURO to PLN

(Updated: June 2014):

1.00 USD = 3.04 PLN

1.00 EUR = 4.11 PLN

1.00 PLN = 0.33 USD

Exchange rates may vary. A currency calculator can be found on <http://www.oanda.com/>

You can convert other currencies to Polish złoty at banks, hotels and private currency-exchange offices - the "kantors". Of course, you can also use credit or debit cards or traveller checks.

## **ELECTRICITY**

Voltage: 220 - 240 volts; 50 Hz; plugs C & E (European-type, two-pin plugs) For comparison, in the US, it is 110 volts at a frequency of 60 Hertz. All sockets follow European standards and are different to the sockets in the US. To use American-type plugs, a transformer should be used together with an adapter plug.

## **HOSPITAL EMERGENCY WARDS IN KRAKÓW**

The following hospitals in Kraków run emergency wards that are open 24 hours a day (called Szpitalny Oddział Ratunkowy - SOR):

- Szpital im. Gabriela Narutowicza at 35-37 Pradnicka street, phone – **(12) 416-2436**
- Szpital im. Ludwika Rydygiera at 1 os. Złotej Jesieni, phone – **(12) 646-8000**
- Szpital im. Stefana Żeromskiego at 66 os. Na Skarpie, phone – **(12) 644-0144**
- Wojskowy Szpital Kliniczny at 1-3 Wrocławska street, phone – **(12) 630-8162**
- Zakład Opieki Zdrowotnej MSWiA at 25 Kronikarza Galla street, phone – **(12) 367-4205**

## **ADDITIONAL NUMBERS**

Kraków Public Transportation Information – (12) 91-50



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