



2010

AHFE International

**3rd International Conference on
Applied Human Factors and Ergonomics**

jointly with

**1st International Conference
on Human Factors and Ergonomics
in Healthcare**

**1st International Conference
on Cross-Cultural Decision Making**

**1st International Conference
on Neuroergonomics**

**1st International Conference
on Applied Digital Human Modeling
and**

**13th International Conference
on Human Aspects of Advanced Manufacturing
(HAAMAHA)**

Final Program

17-20 July 2010

Intercontinental • Miami, Florida USA

**Under the auspices of 11 distinguished international Boards
of 274 members from 44 countries**

www.ahfe2010.org

Opening Plenary Session and Keynote Address

Date: Saturday, July 17, 2010 • 17:30 - 18:45

Room: Versailles

Chair: K. M. Stanney

INTRODUCTORY REMARKS

Gavriel Salvendy - General Conference Chair

Waldemar Karwowski - General Program Chair

KEYNOTE ADDRESS

**HEALTHCARE AND PATIENT SAFETY: THE FAILURE OF TRADITIONAL APPROACHES
– HOW HUMAN FACTORS AND ERGONOMICS CAN AND MUST HELP**

**James Bagian,
U.S. Department of Veterans Affairs, USA**

James Bagian, a veteran NASA astronaut, is the Chief Patient Safety Officer and the Director and Founder of the National Center for Patient Safety at the U.S. Department of Veterans Affairs. Jim has been responsible for the design, development, and deployment of numerous tools and methods to improve patient safety that are routinely used on an international basis. He has also been the recipient of numerous awards and is a member of both the National Academy of Engineering and the Institute of Medicine.



Conference Organization

GENERAL CONFERENCE CHAIR

Gavriel Salvendy

www.ie.tsinghua.edu.cn/Salvendy/

GENERAL PROGRAM CHAIR

Waldemar Karwowski

www.iems.ucf.edu/about/faculty/karwowski.html

COMMUNICATION & EXHIBITION CHAIR

Abbas Moallem

exhibits@ahfe2010.org

CONFERENCE ADMINISTRATOR

Laura Abell

aeiadmin@insightbb.com

STUDENT VOLUNTEER CHAIR

Tareq Ahram

volunteer@ahfe2010.org

THE ON-SITE REGISTRATION

WILL BE OPENED AS FOLLOWS:

July 16: 15:00 - 19:00

July 17: 7:00 - 18:00

July 18: 7:30 - 18:00

July 19: 7:30 - 18:00

July 20: 7:30 - 18:00

CONFERENCE BANQUET

DATE: SATURDAY, JULY 17, 2010

TIME: 19:15 - 21:15

PLACE: TRIANON

Tutorials

Full Day Tutorial: (8:00 – 17:00)

Tutorial #1 Windsor

Practical Statistical Methods for Usability Testing

James R. Lewis, IBM Software Group, USA and Jeff Sauro, Oracle, USA

Half Day Tutorials: (8:00 – 12:00)

Tutorial #2 Escorial

Cross-Cultural User-Experience Design

Aaron Marcus, Aaron Marcus and Associates, Inc., USA

Tutorial #3 Raphael/Michelangelo

Selling Human Factors and Ergonomics in a Successful Way:

Creating Enthusiasm for Ergonomics

Peter Vink, TNO and Delft University of Technology, The Netherlands

Tutorial #4 Balmoral

Neuroergonomics Theory and Methods: Neural, Computational, and Genetic

Raja Parasuraman, George Mason University, USA and

Glenn Wilson, Physiometrex, Inc., USA

Half Day Tutorials: (13:00 – 17:00)

Tutorial #5 Raphael/Michelangelo

Human Factors and Ergonomics in Healthcare

Vince Duffy, Purdue University, USA

Tutorial #6 Escorial

Mobile Human-Computer Interface Design

Aaron Marcus, Aaron Marcus and Associates, Inc., USA

Exhibits

Grand Ballroom

Sunday	July 18 10:00 - 17:00
Monday	July 19 10:00 - 17:00
Tuesday	July 20 10:00 - 16:00

Exhibitors

- NexGen Ergonomics Inc. - www.nexgenergo.com
- Mercer Engineering Research Center - www.merc-mercer.org
- Wiley-Blackwell - www.wiley.com
- Seeing Machines - www.seeingmachines.com
- Dassault Systemes - www.3ds.com/virtualergonomics
- CRC Press - Taylor & Francis Group LLC - www.crcpress.com
- University of Central Florida - IST Active Lab - www.active.ist.ucf.edu
- OSD Human Social Culture Behavior Modeling Program - www.acq.osd.mil/ddre
- Army MANPRINT Program - www.manprint.army.mil
- Smart Eye AB - www.smarteye.se
- Ergoneers GmbH - www.ergoneers.de
- TEA - www.teaergo.com

**Refreshments will
be provided in the
Exhibits area**

Conference at a glance

Sunday, July 18, 2010

Time	Room	Session Title
8:00-10:00	Theater	Civilizational Change
	Sandringham	Ergonomics Hazards and Prevention
	Windsor	Aviation Human Factors
	Balmoral	Ergonomics and Material Environment Design
	Chopin Ballroom	Using VR/AR to Improve Manual Handling I
	Trade	Digital Human Modeling in Usability Engineering
	Escorial	Ergonomics in Academics/Education/Training
	Alhambra	Ergonomics in Industrial Quality
	Raphael	Mobility and Human Modeling
	Michelangelo	Cognitive Ergonomics I
10:00 - 10:30 Refreshments will be provided in the Exhibits area		
10:30-12:30	Theater	Innovations in Healthcare Safety at the VA
	Sandringham	Biometric Symbols for International Users
	Windsor	Extracting Understanding from Diverse Data Sources
	Balmoral	Ergonomics Modelling of Systems and Products
	Chopin Ballroom	Special Populations I
	Trade	Comfortable Human Requirements
	Escorial	Behavior Based Safety
	Alhambra	Military Applications of Neuroergonomics
	Raphael	Anthropometry, Scanning and Posture
	Michelangelo	Simulation and Modeling in Healthcare
13:30 - 15:30	Theater	Tactical Culture Training
	Windsor	Human Performance I
	Balmoral	Virtual Working Environment
	Chopin Ballroom	New Ergonomics Research for Accessibility
	Trade	Human Factors in Manufacturing I
	Escorial	Safety Systems
	Alhambra	Informing Computational Neuroergonomics
	Raphael	Novel Digital Human Modelling Systems
	Michelangelo	Engineering Modeling in Clinical Settings I
	15:30 - 16:00 Refreshments will be provided in the Exhibits area	
16:00-18:00	Theater	Use Cases of Cross Cultural Decision
	Sandringham	Health Care Providers as Consumers
	Windsor	Medical Devices
	Balmoral	Using VR/AR to Improve Manual Handling II
	Chopin Ballroom	Design of Interface for Smart Products
	Trade	Systems Safety I
	Escorial	Ergonomics Applications in the Workplace
	Alhambra	Human Modeling for Real Problem Solving
	Raphael	Quality in Healthcare
	Michelangelo	Human Computer Interaction in Healthcare Systems

Time	Room	Session Title
8:00-10:00	Theater	Socio-Cultural Models and Decision-Making
	Sandringham	Physical Ergonomics
	Windsor	Developing Multimodal Virtual Training Platforms for Perceptual Motor Skills
	Balmoral	Ergonomics in Building and Architecture
	Chopin Ballroom	Comfort: Seating
	Trade	Ergonomic Expert Systems and Ergonomic Risk Assessment Methods
	Escorial	Human Performance in Safety-Critical Systems
	Alhambra	Human Factors in Manufacturing II
	Raphael	Neuroergonomics in the Air Force
	Michelangelo	3D human Body Scan and Body Modeling Session
	Bayfront B	Patient Safety
10:00 - 10:30 Refreshments will be provided in the Exhibits area		
10:30-12:30	Theater	Cultural Models for Decision Making
	Sandringham	Impact of Display Design on Human Performance
	Windsor	Cultural Effect on Team Behaviors
	Balmoral	Social & Organizational Ergonomics I
	Chopin Ballroom	Postural Modeling for Assessing Ergonomic Product Design
	Trade	Human Factors Military Applications
	Escorial	Organizational Issues in Safety and Performance
	Alhambra	Warnings for Consumer Products and Environments
	Raphael	Training for Unmanned Aircraft Systems
	Michelangelo	DHM in the Bayesian Programming Framework
	Bayfront B	Human-System Interface
13:30 - 15:30		
13:30 - 15:30	Theater	Cross-Cultural Competence
	Sandringham	1st International Symposium in Ergonomics in Design: Product Ergonomics
	Windsor	Comfort: Intelligent Products/The Process/Tools
	Balmoral	Application of Cognitive Ergonomics
	Chopin Ballroom	Design for All
	Trade	Systems Safety Engineering
	Escorial	Levels of Automation and Task Allocation in Manufacturing
	Alhambra	DHM Applications I
	Raphael	Model Validation Methods
	Michelangelo	Human and Organizational Aspects I
	Bayfront B	Patient Handling
15:30 - 16:00 Refreshments will be provided in the Exhibits area		
16:00-18:00	Theater	Impact of Culture on Collaboration and Negotiation
	Windsor	1st International Symposium in Ergonomics in Design: Ergonomics in the Workplace Design
	Balmoral	Developing Work in Collaborative Organizations
	Chopin Ballroom	Prospective Tactile and Haptic Interactions
	Trade	Design and Research for Special Populations
	Escorial	Warnings as an Issue in Forensic (legal) Investigations
	Alhambra	Motion Analysis and Simulation or Comfort/Discomfort
	Raphael	Computational Approaches for DHM
	Michelangelo	Engineering Modeling in Clinical Settings II
	Bayfront B	Safety of Medication Usage

Conference at a glance

Tuesday, July 20, 2010

Time	Room	Session Title
8:00-10:00	Theater	Applications of Human, Social, Culture Behavioral Modeling Technology
	Sandringham	Future of Neuroergonomic Research in the Air Force
	Windsor	1st International Symposium in Ergonomics in Design: Virtual Reality in Ergonomic Design
	Balmoral	Social and Organizational Ergonomics II
	Chopin Ballroom	Ergonomics Modeling and Usability Evaluation I
	Trade	Aging and Mobility
	Escorial	Comfort, Safety, Quality and Performance
	Alhambra	Panel: Physiological and Neurophysiological Measures for Workload
	Raphael	Human Factors in Manufacturing III
	Michelangelo	Methodologies and Applications
10:00 - 10:30 Refreshments will be provided in the Exhibits area		
10:30-12:30	Theater	Cross Cultural Decision Making: Training
	Sandringham	Cognitive Ergonomics II
	Windsor	Ergonomics Roadmaps for Work and Products Design
	Balmoral	Panel: Helping the User Fail
	Chopin Ballroom	Ergonomics Modeling and Usability Evaluation II
	Trade	Occupational Safety and Health Requirements in the European Union
	Escorial	HCI in the Energy Industry
	Alhambra	DHM for Product and Equipment Design
	Raphael	DHM Applications II
	Michelangelo	Human Interface & Healthcare IT
	Godfrey 2	IEA TC on Digital Human Modelling Committee (by invitation only)
13:30 - 15:30	Theater	Hybrid & Multi-Model Computational Techniques
	Sandringham	Cognitive Ergonomics III
	Windsor	Emerging Issues in the Study of Work Teams
	Balmoral	Inclusive Design Symposium
	Chopin Ballroom	Systems Safety II
	Trade	Ergonomic Design of Future Production Systems
	Escorial	Neuroergonomic Applications I
	Alhambra	Cognitive and Organizational Aspects
	Raphael	Human and Organizational Aspects II
	Michelangelo	Engineering Healthcare Systems
	15:30 - 16:00 Refreshments will be provided in the Exhibits area	
16:00-18:00	Theater	Sense Making in Other Cultures: Dynamics of Interaction
	Sandringham	1st International Symposium in Ergonomics in Design: Environment and Information
	Windsor	Evolute, Human Competence Management
	Balmoral	Ergonomics for the People with Disabilities and Occupational Safety
	Chopin Ballroom	Systems Safety III
	Trade	Neuroergonomics Applications II
	Escorial	Human Factors in Manufacturing IV
	Alhambra	E-healthcare: Opportunities and Pitfalls
	Raphael	Patient Safety Due to Usability
	Michelangelo	Human Computer Interaction in Healthcare Systems

Detailed Technical Program

Sunday, July 18, 2010

SESSION 1: Civilizational Change

CO-CHAIRS: M. W. Hail and S. J. Lange, USA

THEATER

8:00-10:00

- **Relativism and its consequences for Western civilization**
S. J. Lange, USA
- **Theories of regime development across the millennia and their application to modern liberal democracies**
M. Bessette, USA
- **Cultural change as issues resolution: Predicting values change in the Middle East**
M. Moaddel, USA
- **Factors of destabilization and collapse: A comparative study of the Roman and British Empires and the consequences for Western Civilization**
M. W. Hail, USA
- **Democracy's sacred opinions and the radicalization of Islam in the twentieth century**
J. Pidluzny, USA
- **The theological clash of civilizations: Islamic perceptions of Western religion**
K. Walker, USA

SESSION 2: Ergonomics Hazards and Prevention

CHAIR: R. Jang, Taiwan

SANDRINGHAM

8:00-10:00

- **The relationship between the subjective perception of physical capability and muscular strength during repetitive lifting tasks**
R.-L. Jang, Taiwan
- **Musician related cumulative muscular disorders as assessed using a Taiwanese questionnaire survey**
C.-L. Chen, Taiwan
- **Whole-body vibration exposure and musculoskeletal complaints in urban mail carriers**
H.-C. Chen, Y.-P. Liu and C.-T. Chiang, Taiwan
- **Glovebox gloves: Effects on forearm muscle activity for gripping with maximal and sub-maximal efforts**
P.-C. Sung, P.-J. Cheng and C.-L. Lee, Taiwan
- **The evaluation of an assistive chair design for the elderly**
C. Huang, Taiwan
- **Ergonomics in the context of prevention, educational proposal and current situation in Colombia**
E. Cadavid and L. M. Sáenz, Colombia
- **Ergonomics in industrial design education process: A conceptual and methodological experience**
L. M. Sáenz, Colombia

SESSION 3: Aviation Human Factors

CO-CHAIRS: S. Landry and S. Verma, USA

WINDSOR

8:00-10:00

- **Potential human factors issues in NextGen ATM concepts**
L. Martin, C. Cabrall, P. Lee and K. Jobe, USA
- **Designing efficient trajectory clearance information format on air traffic controller's display**
M. Hiyashi and R. Lanter, USA
- **Preliminary guidelines on controller's procedures for pairing aircraft for simultaneous approaches under different levels of automation**
S. Verma, T. Kozon and D. Ballinger, USA
- **An approach to function allocation for the next generation air transport system**
S. Landry, USA
- **Factors affecting success and failure in a return-to-work program established for a department of defense aircraft maintenance facility**
E. Irwin, K. Streilein and R. Slife, USA
- **An approach to study the body back discomfort of economy class aircraft passenger**
C. F. Tan, W. Chen and M. Rauterberg, The Netherlands
- **Impact of airspace reconfiguration on controller workload and traffic performance**
P. Lee, N. Smith, T. Prevot, J. Homola, H. Lee, A. Kessell and C. Brasil, USA

Detailed Technical Program

Sunday, July 18, 2010

SESSION 4: Ergonomics and Material Environment Design

CHAIR: J. Charytonowicz, Poland

8:00-10:00	BALMORAL	<ul style="list-style-type: none"> Work seats: A short historical outline J. Charytonowicz, Poland Eco-ergonomics in architecture A. Skowronski, Poland Visibility profiles of stadium stands derived from profiles of comfortable stairs Z. Pelczarski, Poland The social role of ergonomics and material environment design K. Lis, Poland Occupational safety management and application of economic guidelines in the shaping of working conditions in supermarkets K. Lis and J. Olszewski, Poland The leader impact on proergonomic activities E. Jasinska, W. Jasinski and S. Janik, Poland TEA: Technology Ergonomics Applications SEMCO Group S. Folley and J.- M. Diroux, France
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SESSION 5: Using VR/AR to Improve Manual Handling I

CO-CHAIRS: P. Vink, The Netherlands, B. Krassi, Finland, and M. D'Cruz, UK

8:00-10:00	CHOPIN BALLROOM	<ul style="list-style-type: none"> ManuVAR: A framework for improving manual work through virtual and augmented reality B. Krassi, Finland, M. D'Cruz, UK, and P. Vink, The Netherlands Virtual and augmented reality technologies for supporting heterogeneous multidisciplinary end-users across product lifecycle S. Kiviranta, Finland, M. Poyade, Spain, and K. Helin, Finland Integration of human factors methods to the ManuVAR product lifecycle management model S. Aromaa, Finland, J. Viitaniemi, Finland, C. Leva, Ireland, and B. Krassi, Finland ManuVAR Training: Supporting the Implementation and design of VR/AR quality-Improvement tools for manual handling P. Liston, Ireland, S. Cromie, Ireland, M.-C. Leva, Ireland, K. Helin, Finland, and M. D'Cruz, UK Investigating manual work using human factors approaches and behavioral analysis G. Lawson, UK, G. Tosolin, Italy, C. Leva, Ireland, S. Sharples, UK, A. Langley, UK, S. Shaikh, UK, and P. Liston, Ireland From teaching machines to the exploitation of virtual and augmented reality: Behaviour analysis supporting manual workers in aerospace industry within the European project ManuVAR G. Tosolin and A. Valdina, Italy Usability of approximated 3D target objects for mission preparation M. Kleiber and C. Winkelholz, Germany
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SESSION 6: Digital Human Modelling in Usability Engineering

CHAIR: J. Grobelny, Poland

8:00-10:00	TRADE	<ul style="list-style-type: none"> Modeling in websites designing process K. Hankiewicz and W. Prussak, Poland Modelling human response magnitude for electronic message stimulation K. Jach and M. Kulinski, Poland Modelling online buyers' preferences related to webpages layout: Methodology and preliminary results M. Kulinski, K. Jach, R. Michalski and J. Grobelny, Poland Human preference modeling in usability of graphical interfaces J. Grobelny and R. Michalski, Poland Investigating preattentive features for modelling human behaviour during visual search R. Michalski, J. Grobelny, M. Kulinski and K. Jach, Poland An empirical assessment of driver motivation, emotional response and driving conditions on risk-taking decisions Y. Zhang and D. Kaber, USA Understanding accidents in the great outdoors: Testing a risk management framework in the led outdoor activity domain P. Salmon, A. Williamson, M. Lenne, E. Mitsopoulos-Rubens and C. M. Rudin-Brown, Australia
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Detailed Technical Program

Sunday, July 18, 2010

SESSION 7: Ergonomics in Academics/Education/Training

CHAIR: V. Rice, USA

8:00-10:00	ESCORIAL	<ul style="list-style-type: none"> Auditory discrimination and academic performance P. Alfred, V. J. Rice, G. Boykin and L. Laws, USA Challenges and opportunities for applying human factors methods to the development of non-technical skills in healthcare education M. A. Rosen, M. Feldman, E. Salas, H. B. King and J. Lopreiato, USA Videogame experience and neurocognitive timing performance G. L. Boykin, V. J. Rice, P. Alfred and L. Laws, USA Evaluating a human factors training program for content retention and effectiveness C. Bazley, USA Using evidence based research method to design inclusive learning environment for autism R. Khare, India, A. Mullick, USA and A. Khare, India The human factors of instructional design and accelerated learning A. Oskorus, R. Meyer, T. Andre and K. Moore, USA Computer workstation ergonomics for an aging workforce N. Charness, USA
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SESSION 8: Ergonomics in Industrial Quality

CHAIR: S. Hwang, Taiwan

8:00-10:00	ALHAMBRA	<ul style="list-style-type: none"> Predicting image quality on a mobile display under different illuminations P.-H. Lin, W.-H. Kuo and S.-L. Hwang, Taiwan Display/control quality in small touch based screen Y. L. Lee, Taiwan Survey of workload factors for technicians in wind turbine maintenance tasks: A pilot study G.-F. Liang, Taiwan, P. Patterson, USA, and S.-L. Hwang, Taiwan The factors of image quality in autostereoscopic display Y.-T. Ding, S.-L. Hwang, K.-C. Chang, S. Wang, Y.-Y. Lai and W.-H. Liao, Taiwan Multiple criteria process optimization in computer simulation, Using resin transfer modeling tooling design as an example J. C. P. Su and Y. Peng, Taiwan Consumer perception of mobile phone attributes T. Zhang, P. L. P. Rau and J. Zhou, P. R. China
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SESSION 9: Mobility and Human Modeling

CHAIR: G. Andreoni, Italy

8:00-10:00	RAPHAEL	<ul style="list-style-type: none"> Are force dynamics determined by hand posture during hand brake manipulation? K. Li and V. Duffy, USA Human behaviour analysis and modelling: A mixed method approach G. Andreoni, L. Anselmi, F. Costa, M. Mazzola, E. Preatoni, M. Romero and B. Simionato, Italy Vehicle layout conception considering trunk loading and unloading A. Mueller and T. Maier, Germany Modeling and simulation of under-knee amputee climbing task Y. Fu, S. Li and B. Yueqing, P. R. China Assessment of dynamic reaching tasks through a novel ergonomical index E. Preatoni, M. Mazzola and G. Andreoni, Italy Fast and frugal heuristics conquer the airport C. Möhlenbrink and E. Schnieder, Germany Capability test for a digital cognitive flight crew model A. Luedtke, Germany, J.-P. Osterloh, Germany, T. Mioch, The Netherlands, and J. Janssen, The Netherlands
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Detailed Technical Program

Sunday, July 18, 2010

SESSION 10: Cognitive Ergonomics I

CHAIR: D. Kaber, USA

8:00-10:00	MICHELANGELO	<ul style="list-style-type: none"> Spatial cognition and virtual/real transfer of learning G. Wallet, France Cognitive task analysis for maritime collisions A. L. S. Tan, M. Helander, K. Choo and S. B. Kee, Singapore Workload-based evaluation of supervisory control interfaces for life science automation S.-H. Kim, USA, R. Green, USA, D. Kaber, USA, M. Weippert, Germany, D. Arndt, Germany, R. Stoll, Germany, and P. Mosaly, USA Effects of modes of cockpit automation on pilot performance and workload in a next generation flight concept of operation G.-H. Gil, K. Kaufmann, S.-H. Kim and D. Kaber, USA Measuring cross-cultural stimulus-responses on the internet E. MacKerrow and J. Watkins, USA Supporting attention in manual assembly and its influence on quality G. Bäckstrand, A. Brolin, D. Högberg, Sweden, and K. Case, UK
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10:00 - 10:30 Refreshments will be provided in the Exhibits area

SESSION 11: Innovations in Healthcare Safety at the VA

CHAIR: J. Bagian, USA

10:30 - 12:30	THEATER	<ul style="list-style-type: none"> The daily plan®: Patients taking part in patient safety B. King, P. Mills, J. Neily, A. Fore and J. Bagian, USA Airline safety practices in clinical nursing G. Sculli, USA Medical team training in the Veterans Health Administration: Checklist-guided preoperative briefings and postoperative debriefings D. Paull and L. Mazzia, USA VA Health Information Technology: Computerized Patient Record System (CPRS), Bar Code Medication Administration, (BCMA) and My HealtheVet D. M. Hoover and M. Theis, USA Model-based usability and error analysis of an electronic health record interface S. Wood, D. Sittig, A. Esquivel, D. Murphy, B. Reis and H. Singh, USA Teaching healthcare clinicians to demand safe healthcare delivery systems L. Williams and J. Bagian, USA
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SESSION 12: Biometric Symbols for International Users

CHAIR: Y.-Y. Choong, USA

10:30 - 12:30	SANDRINGHAM	<ul style="list-style-type: none"> Make icons make sense: Solving symbols for global audiences P. Hofmann, Australia Design and evaluate biometric device symbols for Chinese P.-L. P. Rau and J. Liu, P. R. China International study of NIST pictograms, icons and symbols for use with biometric systems - The case of South Korea S. M. Ko, J. K. Choi and Y. G. Yi, Korea An empirical study of Korean culture effects in the usability of biometric symbols Y.-B. Kwon, Korea, Y. Lee, USA, and Y.-Y. Choong, USA Usability evaluation on icons of fingerprint scanning system for Taiwanese users S.-F. M. Liang and P.-H. Hsu, Taiwan Biometric symbol design for the public - Case studies in the United States and four Asian countries Y.-Y. Choong, B. Stanton and M. Theofanos, USA The elder's discrimination of icons with color discrimination on the cell phone J.-Y. Kuo and F.-G. Wu, Taiwan
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Sunday, July 18, 2010

SESSION 13: Extracting Understanding from Diverse Data Sources

CO-CHAIRS: S. Lackey and D. Nicholson, USA

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| 10:30 - 12:30 | WINDSOR | <ul style="list-style-type: none"> • Data problems for cross-cultural decision making
W. Salter, I. Yoha, G. Levchuk and B. Skarin, USA • Lethal combinations: Studying the structure of terrorist networks
I. Anderson, K. Rethemeyer and V. Asal, USA • Terrorist profiles: From their own words
P. Picucci, USA • MASON RebeLand and data aspects of agent-based simulation models
C. Cioffi-Revilla, USA • Dynamic decision making games and conflict resolution
C. Gonzalez, C. Lebiere, J. Martin and I. Juvina, USA |
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SESSION 14: Ergonomics Modelling of Systems and Products

CHAIR: H. Khalid, Malaysia

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| 10:30 - 12:30 | BALMORAL | <ul style="list-style-type: none"> • Modeling operator performance under stress and fatigue: What can a cognitive architectural model tell us?
J. W. Kim and P. Hancock, USA • Using TRIZ for human factors design
M. Helander, Singapore • Beauty and the beast: Predicting web page visual appeal
C. Dudek, G. Lindgaard and S. Pineau, Canada • Citarasa engineering for modeling affective product design
H. Khalid, Malaysia • Modeling mobile devices for the elderly
M. Ziefle, Germany • Modeling precision agriculture device for palm oil industry
M. F. Yahaya and S.-L. Choong, Malaysia • Cultural modelling of remote communities
A. W. Yeo, E. Mit, P.-C. Chiu, J. Labadin and P.-P. Tan, Malaysia |
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SESSION 15: Special Populations I

CO-CHAIRS: A. Vredenburgh, USA, and C. Chapdelaine, Canada

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| 13:30 - 15:30 | CHOPIN BALLROOM | <ul style="list-style-type: none"> • Evaluation of methods to remedy existing multi-family housing to maximize accessibility to residents
I. Zackowitz and A. Vredenburgh, USA • Work system design with the ergonomic harmony framework for the aging workforce
L. Wang and H. Lau, Hong Kong • Lessons learned from blind individuals on videodescription
C. Chapdelaine and A. Jarry, Canada • The Ability/Difficulty Table: A tool to identify the "limit target" in the Design for all Approach
G. Di Bucchianico, Italy • Supporting inclusive evaluation with user capability data
U. Persad, West Indies, P. Langdon, UK, and P. J. Clarkson, UK • Access 2 All – Innovative HMI concepts for barrier-free travelling
K. Meinken, Germany, and A. Bekiaris, Greece • A program to help persons with disabilities become entrepreneurs
P. McAlindon, C. Mayo and P. Shoemann, USA |
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SESSION 16: Comfortable Human Requirements

CHAIR: P. Sharma, India

13:30 - 15:30 TRADE

- **Ergonomic assessment of farm activities of women farmers of Mountain of India: Approach towards drudgery reduction**
A. Rajor, P. Sharma, S. Singh and I. Karki, India
- **Status of ward nurses in health care industry of Uttarakhand State of India: An approach through hospital ergonomics**
I. Karki and P. Sharma, India
- **Design development of toilet chair on ergonomic principles through CAD**
N. Kaur, P. Sharma and K. Oberoi, India
- **Good ergonomic setup for healthy posture at work**
S. Singh and P. Sharma, India
- **Ergonomic assessment of old age homes and related health hazards on elderly people**
S. N. Kashyap and P. Sharma, India
- **Ergonomic assessment of interiors in residential dwellings and impact on residents**
S. Agarwal, India, P. Sharma, India, and L. Gupta, USA
- **Ergonomic assessment of dairy activities performed by rural women of Punjab (India)**
K. Oberoi, S. Sharma and P. Kataria, India
- **Ergonomic assessment: Risk exposure among construction workers**
P. Joshi, P. Sharma and A. Sharma, India

SESSION 17: Behavior Based Safety

CO-CHAIRS: J. Sinay and H. Pacaiova, Slovak Republic

10:30 - 12:30 ESCORIAL

- **Safety culture - An effective tool for major hazard prevention**
M. Palecek, Czech Republic
- **Surface pressure analysis in prosthetics and orthotics**
J. Zivcak, R. Hudak, M. Kristof and L. Bednarcikova, Slovak Republic
- **Safety and risk philosophy in maintenance management**
H. Pacaiova, Slovak Republic
- **Causal relation of negative event occurrence-Injury and/or failure**
J. Sinay and A. Nagyova, Slovak Republic
- **Safety aspects of rapid detection of smoldering burning in cellulose and cellulosic materials**
K. Balog and T. Chrebet, Slovak Republic

SESSION 18: Military Applications of Neuroergonomics

CHAIR: V. Rice, USA

10:30 - 12:30 ALHAMBRA

- **Neuroergonomics, From theory to practice**
C. Fidopiastis and D. Nicholson, USA
- **Subjective and objective measures of operator state in automated systems**
L. Reinerman-Jones, K. Cosenzo and D. Nicholson, USA
- **Towards physiologically adaptive operator training**
K. Thomas and J. Christensen, USA
- **Neurogenetics of working memory and decision making under time pressure**
R. Parasuraman, USA
- **Cognitive workload assessment of air traffic controllers using optical brain imaging sensors**
H. Ayaz, B. Willems, S. Bunce, P. Shewokis, K. Izzetoglu, S. Hah, A. Deshmukh and B. Onaral, USA
- **Prestimulus alpha as a precursor to errors in a UAV target orientation detection task**
C. Baldwin, J. Coyne, D. Roberts, J. Barrow, A. Cole, C. Sibley, B. Taylor and G. Buzzell, USA
- **Real-time classification of neural signals corresponding to the detection of targets in video imagery**
J. Touryan, L. Gibson, J. Horne and P. Weber, USA

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SESSION 19: Anthropometry, Scanning and Posture

CHAIR: R. Goonetilleke, Hong Kong

10:30 - 12:30 RAPHAEL

- **Development of methodology to gather seated anthropometry data in a microgravity environment**
K. Young, M. Mesloh and S. Rajulu, USA
- **Dynamic foot scanning. Prospects and limitations of using synchronized 3D scanners to capture complete human foot shape while walking**
T. Schmeltzpfenning, C. Plank, I. Krauss, P. Aswendt and S. Grau, Germany
- **Hand posture estimation for the disposition design of controls on an automobile steering wheel**
N. Miyata and M. Mochimaru, Japan
- **The effects of extravehicular activity (EVA) glove pressure on hand strength**
M. Mesloh, S. England, L. Benson, S. Thompson and S. Rajulu, USA
- **Physically-based grasp posture generation for virtual ergonomic assessment using digital hand**
Y. Endo, N. Miyata, M. Kouchi, M. Mochimaru and S. Kanai, Japan
- **The geriatric 3D foot shape**
A. Luximon, Y. Luximon, D. W. -C. Wong and M. Zhang, Hong Kong
- **Relationship between arrangement of functional joint rotation centers and body dimensions**
K. Aoki, M. Kouchi and M. Mochimaru, Japan

SESSION 20: Simulation and Modeling in Healthcare

CO-CHAIRS: Y. Liu and J. Gallimore, USA

10:30 - 12:30 MICHELANGELO

- **Improving quality of patient care in an Emergency Department through modeling and simulation of its process**
A. Langdon and P. Chawla, USA
- **Virtual reality: From training to rehabilitation**
M. D'Angelo, S. Kotowski, D. Reynolds, S. Narayanan and J. Gallimore, USA
- **Designing a virtual patient for communication**
A. Barnes, J. Gallimore and R. Scott, USA
- **Clinical virtual reality: A brief review of the future**
S. Rizzo, USA
- **Human factors engineering availability and suitability verification for human-system interface in nuclear power plants**
J. Ra, Korea

SESSION 21: Tactical Culture Training

CO-CHAIRS: S. Schatz and D. Barber, USA

13:30 - 15:30 THEATER

- **Modeling the reciprocal relationship between personality and culture**
S. Schatz and D. Nicholson, USA
- **Modeling cultural and personality biases in decision-making**
E. Hudlicka, USA
- **Narrative structure as a cultural variable in modeling and training decision making**
W. Zachary, L. Miller, S. Read and T. Santarelli, USA
- **AVATAR: Developing a military cultural role-play trainer**
D. Barber, S. Schatz and D. Nicholson, USA
- **Auto-diagnostic adaptive precision training - human terrain (ADAPT-HT): A conceptual framework for cross-cultural skills training**
K. Stanney, C. Kokini, S. Fuchs, P. Axelsson and C. Phillips, USA
- **Integrating cross-cultural decision making skills into military training**
L. Johnson and L. Friedland, USA

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SESSION 22 Human Performance I

CHAIR: D. Coelho, Portugal

13:30 - 15:30 WINDSOR

- **Principle driven design: Ergonomic requirements of multimedia as the main driver in the development of a tool for prevention in occupational health and safety**
D. Coelho, Portugal
- **Face to face and on-line learning: Are emotions so blended in a blended learning environment?**
O. Parlangeli, N. Ciani and E. Marchigiani, Italy
- **Cognitive ergonomics: The adaptation of the Brazilian pilots to the aircraft F-5EM**
H. Montandon, M. da Silveira Luz and S. L. de Oliveira Ribeiro, Brazil
- **Is analytical thinking useful to technology teaching?**
R. K. O'Flynn and T. Waldmann, Ireland
- **Utilizing the keyboard to issue commands: Do self-efficacy, goal orientation, and computer anxiety impact usage of efficient techniques with software?**
S. Peres, J. Jardina and C. Titus, USA

SESSION 23: Virtual Working Environment and Systemic-Structural Activity Theory

CO-CHAIRS: T. Winkler, Poland, and G. Bedny, USA

13:30 - 15:30 BALMORAL

- **Innovative solutions for adjustment of city area to disabled persons and the aged with using computer techniques**
A. K. Styczeń, Poland, J. Bartnicka, Poland, and C. Bevilacqua, France
- **Knowledge based shaping of working conditions in industry and health care**
T. Winkler, Poland
- **Using performance measures to assess the effect of visual aesthetic on usability**
A. Altaboli, USA/Libya, Y. Lin, USA, M. Ali, Libya, and Y. Alterhony, Libya
- **Innovation-based enhancing work conditions in healthcare organizations**
J. Bartnicka and T. Winkler, Poland
- **Analysis of abandoned actions in the email distributed tasks performance**
I. Bedny and G. Bedny, USA
- **The concept of task in the systemic-structural activity theory**
W. Karwowski, G. Bedny, USA, and O. Chebykin, Ukraine
- **The concept of task for non-production human-computer interaction environment**
G. Bedny, W. Karwowski and I. Bedny, USA

SESSION 24: New Ergonomics Research for Accessibility

CHAIR: D. Feathers, USA

13:30 - 15:30 CHOPIN BALLROOM

- **Older adults and meaningful access to internet-based health applications: A human factors approach**
S. Czaja and J. Sharit, USA
- **Clear floor area for wheeled mobility users**
E. Steinfeld, C. D'Souza, V. Paquet and J. White, USA
- **Enhancing the wheelchair transfer process to elements in the built environment**
A. Koontz, M. Toro, P. Kankipati and R. Cooper, USA
- **Interaction development for a public transit rider reporting system**
E. Ayoob, T. Andrainoff, R. Dar Aziz and A. Steinfeld, USA
- **A human performance study to inform accessible public bus transportation**
V. Paquet, J. Lenker, C. D'Souza, P. Bareira, U. Damle and E. Steinfeld
- **Comparison of hand grip strength between wheeled mobility device users and non-disabled adults**
C. Joseph, C. D'Souza, V. Paquet and D. Feathers, USA
- **Anthropometric data visualization tools to improve accessibility of built environments**
C. D'Souza, V. Paquet, E. Steinfeld and D. Feathers, USA

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SESSION 25: Human Factors in Manufacturing I

CO-CHAIRS: G. Paul, Australia, and H. Shahnava, Sweden

TRADE

13:30 - 15:30

- **Macro and micro ergonomics application in a medium sized company**
H. Shahnava, Sweden, A. Naghib and S. Samadi, Iran
- **Design for manufacturing (DFM) – A case study of repetitive measures**
G. Paul, Australia, and F. Wagner, Germany
- **The personas layering framework applied to consumer services design for automotive market**
A. Marcengo, A. Rapp and E. Guercio, Italy
- **Cultural influence on learning sensorimotor tasks**
T. Jeske, M. Mayer, B. Odenthal, K. Hasenau, S. Tackenberg and C. Schlick, Germany
- **Cognitive assembly planning using state graphs**
D. Ewert, E. Hauck, D. Schilberg and S. Jeschke, Germany
- **The process of identifying and implementing ergonomic controls in the packaging of motors**
I. Wireman, USA
- **Nonlinear synchronization of biceps and triceps muscles during maximum voluntary contraction**
D. Rodrick, S. Erupaka, R. K. Sasidharan and W. Karwowski, USA

SESSION 26: Safety Systems

CHAIR: S. Maly, Czech Republic

ESCORTIAL

13:30 - 15:30

- **New tools for analyzing work activities in the process industry**
P. Skrehot, Czech Republic
- **Program safety enterprise as a supporting tool for effective occupational safety and health management system**
S. Vlkova, Czech Republic
- **Major accident prevention as a tool to increase the level of enterprise safety systems in the Czech Republic**
M. Prazakova, S. Maly, E. Dusek and V. Sluka, Czech Republic
- **Analysis of the process safety management system in relation to the prevention of major accidents caused by dangerous chemical substances**
P. Forint, Czech Republic
- **The human body reaction on non-uniform radiant-convective load**
S. Bernatikova, Z. Oleksiakova, Z. Jirak, M. Jokl, H. Tomaskova and S. Maly, Czech Republic
- **Globe Stereothermometer - A new instrument for measurement and evaluation of irrefular radiant-convective load**
Z. Oleksiakova, S. Bernatikova, Z. Jirak, M. Jokl, S. Maly, H. Tomaskova, Czech Republic
- **Adaptibility of operators when exposed to hand-transmitted vibration at work with electric hand-held tools**
S. Fišerová, Czech Republic

SESSION 27: Informing Computational Neuroergonomics

CHAIR: A. Santamaria, USA

ALHAMBRA

13:30 - 15:30

- **Predicting perceptual performance from neural activity**
K. Das, S. Li, B. Giesbrecht, Z. Kourtzi and M. Eckstein, USA
- **Decoding information processing when attention fails: An electrophysiological approach**
R. Kasper, K. Das, M. Eckstein and B. Giesbrecht, USA
- **Performance under pressure: A cognitive neuroscience approach to emotion regulation, psycho-motor performance and stress**
A. Haufner and B. Hatfield, USA
- **The motion of emotion: Affective influences on movement planning and execution**
C. Janelle, S. Coombes and K. Gamble, USA
- **Pre-Motor response time benefits in multi-modal displays**
J. Merlo and P. A. Hancock, USA
- **Modeling sleep-related activities from experimental observations: Initial computational frameworks to understand sleep function(s)**
M. A. Greco, J. Murray and C. Talcott, USA

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SESSION 28: Novel Digital Human Modelling Systems

CO-CHAIRS: R. Marshall, UK, S. Summerskill, UK, and D. Högberg, Sweden

13:30 - 15:30 RAPHAEL

- **Development and evaluation of task based digital human modelling for inclusive design**
R. Marshall, S. Summerskill, K. Case, D. Gyi and R. Sims, UK
- **Potential improvements to the occupant accommodation design process in vehicles using digital human modelling**
S. Summerskill, R. Marshall and K. Case, UK
- **IMMA-Intelligently Moving Manikin - Project status**
L. Hanson, D. Hogberg, R. Bohlin and J. Carlson, Sweden
- **Digital human model module and work process for considering anthropometric diversity**
E. Bertilsson, D. Hogberg, and L. Hanson, Sweden
- **Development of novel digital human modelling systems**
R. Marshall, UK

SESSION 29: Engineering Modeling in Clinical Settings I

CO-CHAIRS: J. Kasser, Singapore, and M. Ohkura, Japan

13:30 - 15:30 MICHELANGELO

- **Comprehensive Exposure Index (CEI) model for the assessment of risk factors of UEMSDS**
S. A. Moussavi-Najarkola, Iran
- **Mobile devices as virtual blackboards for M - learning**
D. Davcev and V. Trajkvik, Republic of Macedonia
- **The central totem for hospital stay: An example of applied patient-centred design**
C. Dinardo, Italy
- **Toward the standardization of health care record management systems**
J. Chakraborty, L. Hansen, A. Patel and A. Norcio, USA
- **Interactive system to assist rehabilitation of children: Development of a system employing new rehabilitation movement**
S. Murai, K. Umehara, H. Hariyama and M. Ohkura, Japan
- **The characteristics of center of pressure progression for elderly adults**
M.-C. Chiu, H.-C. Wu and M.-H. Wu, Taiwan
- **Developing a method to evaluate the employee satisfaction on safety management**
M. Tomita and Y. Okada, Japan

15:30 - 16:00 Refreshments will be provided in the Exhibits area

SESSION 30: Use Cases of Cross Cultural Decision

CO-CHAIRS: D. Schmorow and D. Nicholson, USA

16:00 - 18:00 THEATER

- **Developing a multidisciplinary ontology: A case illustration from ICST's research on competitive adaptation in terrorist networks**
K. Braddock, J. Horgan, M. Kenney and K. Carley, USA
- **Adversarial behavior in complex adaptive systems: An overview of ICST's research on competitive adaptation in terrorist networks**
J. Horgan, M. Kenney and P. Vining, USA
- **Analyzing ABC of disaster experience using text mining**
H. Khalid, Malaysia, J. Radha, Malaysia, X. Yang, Singapore, and M. Helander, Singapore
- **Simulating the Afghanistan-Pakistan opium supply chain**
J. Watkins, E. MacKerrow and T. Merritt, USA
- **The impact of ergonomic factors of Mexican labor, working in global enterprises**
P. Castillo Galván and E. Espinoza Méndez, Mexico

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SESSION 31: Health Care Providers as Consumers

CHAIR: S. Bogner, USA

16:00 - 18:00 SANDRINGHAM

- **Health care as an electric can opener**
S. Bogner, USA
- **Healthcare product design - The Challenge of co-design**
R. Goossens, The Netherlands
- **OR2010 - Processes analysis within the OR and the consequences for product design**
U. Matern and D. Büchel, Germany
- **Benefits of a structured user centred design process for customers: Patients and manufacturers**
D. Büchel and U. Matern, Germany
- **Making safe choices as consumers of health care products: challenges for the future**
V. Patel, USA
- **Nomenclature, mental models and mountain rescue**
S. Prückner, Germany
- **The strange case of $4+6 = 21!$**
Y. Donchin, Israel

SESSION 32: Medical Devices

CHAIR: C. Garg, USA

16:00 - 18:00 WINDSOR

- **Overview of IEC 62366 and implications for human factors work in the design and definition of medical devices**
C. Garg, USA
- **Use error analysis: Methodology and example**
E. Israelski, USA
- **Designing medical device human performance validation protocols for FDA clearance: A case study**
R. North, USA
- **A qualitative assessment of medical device design by healthy adolescents**
A. Lang, J. Martin, S. Sharples and J. Crowe, UK
- **Contextual inquiry for medical device development: A case study**
J. Martin and J. Crowe, UK

SESSION 33: Using VR/AR to Improve Manual Handling II

CO-CHAIRS: P. Vink, The Netherlands, B. Krassi, Finland, and M. D'Cruz, UK

16:00 - 18:00 BALMORAL

- **Collaboration between design and production by exploiting VR/AR and PLM - Case Metso Minerals**
S. -P. Leino, M. Vehviläinen, S. Kiviranta, A. Mäkiranta, P. Nuutinen, I. Hokkanen, P. Multanen, P. Rantanen, J. Heikkilä and T. Martikainen, Finland
- **User demands for new mixed reality tools, first results of the ManuVAR project**
P. Vink, The Netherlands, M. Blok, The Netherlands, G. van Rhijn, The Netherlands, T. Bosch, The Netherlands, H. Totté, The Netherlands, and K. Loupos, Greece
- **ManuVAR PLM model, methodology, architecture, and tools for manual work support throughout system lifecycle**
B. Krassi, Finland, S. Kiviranta, Finland, P. Liston, Ireland, S.-P. Leino, Finland, M. Strauchmann, Germany, A. Reyes-Lecuona, Spain, J. Viitaniemi, Finland, J. Sääsäski, Finland, S. Aromaa, Finland, and K. Helin, Finland
- **Augmented reality in factory environments - System usability and human factors studies**
J. Sääsäski, Finland, G. Karaseitanidis, UK, and T. Salonen, Finland
- **Supporting workers through the combination of mixed reality and mobile devices in wide areas**
N. Frangakis, Greece, I. Karaseitanidis, Greece, R. Blach, Germany, and T. Gleue, Germany
- **A virtual interactive training application to support manual work**
M. Strauchmann, Germany, T. Haase, Germany, J. Viitaniemi, Finland, S. Kiviranta, Finland, and P. Vink, The Netherlands
- **Discussion on AR/VR:**
P. Vink, B. Krassi and M. D'Cruz

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SESSION 34: Design of Interface for Smart Products

CHAIR: T. Park, Singapore

16:00 - 18:00 CHOPIN BALLROOM

- **Emotions invoked by overall shape of robot**
J. Hwang, Korea, W. Hwang, Korea, and T. Park, Singapore
- **Toward a unified social robot taxonomy based on human perceptions**
B. Tay and T. Park, Singapore
- **Efficacy of central alarm system on nurses' line of care in a surgical intensive care unit in Singapore**
R. Y. I. Koh, T. Park and F. G. Chen, Singapore
- **Modeling of an integrated workstation environment for occupational safety and health application**
A. R. Omar and I. Halim, Malaysia
- **Design comparison of commercial TV remote controls**
H. Beauchamp and Y. S. Ryu, USA
- **Design approach of a direct-touch input for navigation techniques interface of web map**
H. Lin and F. -G. Wu, Taiwan
- **Design of hand operated trowel: An ergonomic approach**
M. Khidiya and A. Bhardwaj, India

SESSION 35: Systems Safety I

CHAIR: Y.-G. Kwon, Korea

16:00 - 18:00 TRADE

- **Evaluation of task related bottleneck factors of NPPs**
T. I. Jang, J. K. Park, S. H. Hwang, J. W. Lee and Y. H. Lee, South Korea
- **A study on the evaluation of management plan for whole-body vibration by ISO 2631-1**
S. H. Kim, T. G. Kim, Y. S. Kang and K. H. Yi, South Korea
- **The preventive strategies for the third industrial accident in Korea**
Y. Kang, S. Yang, T. Kim and D. Kim, South Korea
- **Impact of occupational health & safety activities and safety climate on industry accident rates in South Korea**
K. H. Yi and H. S. Jung, South Korea
- **Enhancement of MSD problems in the automobile industry**
Y. -G. Kwon, H.-J. Lee and J. -W. Ryu, Korea
- **The comparison between OHSMS and PCMS for business area**
C. -O. Kim, H.-J. Choi and C. -H. Lee, Korea
- **A human factor analysis to mitigate fall risk factors in an aerospace environment**
J. Ware, USA

SESSION 36: Ergonomics Applications in the Workplace

CHAIR: M. J. Wang, Taiwan

16:00 - 18:00 ESCORIAL

- **The effect of backpack weight on gait parameters**
C. -Y. Wu, C.-L. Lin, M.-J. Chung and M. -J. Wang, Taiwan
- **The investigation of low back problems among home delivery drivers**
C. -L. Lin, Y.-T. Hung, M.-J. Wang and J. P. Chen, Taiwan
- **The effect of local illumination on light-on test inspection in a TFT-LCD Plant**
L. -J. Twu, C.-L. Lin and M. -J. Wang, Taiwan
- **A comparison of different shoe insoles in gait performance**
M. -J. Chung, C.-L. Lin, C.-H. Chang and M. -J. Wang, Taiwan
- **The evaluation of double-layers clothing on clothing microclimate, physiological responses and subjective comfort**
T. -H. Chen, C.-L. Lin and M. -J. Wang, Taiwan
- **Effect of grasp-/contact-characteristics of snap fasteners on time requirements and electromyographic activity for snap-fit assembly**
H. Salmanzadeh, M. Diaz-Meyer, V. Bopp, K. Landau and R. Bruder, Germany
- **Development of a questionnaire for prolonged standing jobs at manufacturing industry**
I. Halim, A. R. Omar, A. M. Saman, I. Othman and M. A. Ali, Malaysia

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SESSION 37: Human Modeling for Real Problem Solving

CHAIR: Y. Motomura, Japan

ALHAMBRA
16:00 - 18:00

- **Large-scale data based modeling in everyday life for service engineering**
Y. Motomura, Japan
- **A social system that circulates safety knowledge for injury prevention**
Y. Nishida, Y. Motomura, K. Kitamura and T. Yamanaka, Japan
- **A system for presenting potential high-risk situation by integrating biomechanical, injury, child behavior model**
Y. Koizumi, Y. Nishida, Y. Motomura, Y. Miyazaki and H. Mizoguchi, Japan
- **A method of evidence-based risk assessment through modeling infant behavior and injury**
K. Nomori, Y. Nishida, Y. Motomura, T. Yomanaka and A. Komatsubara, Japan
- **Childhood injury modeling based on injury data collected using Bodygraphic injury surveillance system**
K. Kitamura, Y. Nishida and Y. Motomura, Japan
- **Cognitive study on driver's behavior by vehicle trajectory and eye movement in virtual environment**
H. Aoki, H. Nakayasu,, N. Kondo and T. Miyoshi, Japan
- **Characterization of mental models in an inductive reasoning task using measures of situation awareness**
T. Zhang and D. Kaber, USA

SESSION 38: Quality in Healthcare

CHAIR: R. Goossens, The Netherlands

RAPHAEL
16:00 - 18:00

- **Quality, errors, and the context of care**
S. Bogner, USA
- **Conflicting benefits and hazards of hospital-style bed rails**
S. Hignett, UK
- **The use of human factors to promote safety and efficiency in the operating room**
J. Wagner, J. M. Johanning and M. S. Hallbeck, USA
- **Quality improvement projects in patient safety**
L. Wolf, USA
- **Healthcare product design for quality**
R. Goossens, The Netherlands
- **The elements of work environment in the improvement process of quality management system structure**
A. Górný, Poland
- **Effect of emotional intelligence on healthcare IT acceptance**
R. Tian, USA, X. Zhao, USA/P. R. China, and V. Duffy, USA

SESSION 39: Human Computer Interaction in Healthcare Systems

CHAIR: C. J. Su, Taiwan

MICHELANGELO
16:00 - 18:00

- **An application of the intermittent illumination model for measuring individual's corrective reaction time**
J. -F. Lin, Taiwan, and C. G. Drury, USA
- **An intelligent community care system using network sensors and mobile agent technology**
C. -J. Su and B. -J. Chen, Taiwan
- **Mobile agent based ubiquitous health care (UHC) monitoring platform**
C. -J. Su and C. -Y. Chiang, Taiwan
- **Systematic and structured development of human-included VE to support virtual ergonomic evaluation**
W. -Y. Feng, C.-J. Chao, F.-Y. Tseng and T. -L. Sun, Taiwan
- **Multi-scale entropy analysis for postural sway signals with attentional influence in elderly and young subjects**
W. -H. Yang and B. C. Jiang, Taiwan
- **Human factors in a voluntary medical incident reporting system**
Y. Gong, USA

SESSION 40: Socio-Cultural Models and Decision-Making

CO-CHAIRS: G. Coppin and D. Bazalgette, France

THEATER

8:00-10:00

- **A metamodel description language for HSCB modeling**
S. N. Reilly, A. Pfeffer and J. Barnett, USA
- **Politeness, culture, decision making and attitudes; Linking Brown and Levinson to directive compliance**
C. Miller, P. Wu, V. Vakili and T. Ott, USA
- **Cultures and networks in security communities**
D. Sallach, USA
- **Cultural intelligence support for military operations**
A. Guthormsen, E. MacKerrow, R. Morgart and T. Merritt, USA
- **Geospatial campaign management for complex operations**
L. Stroh, A. Caglayan, T. Rashed, D. Burke and G. Eaton, USA
- **Operator trust in human socio-cultural behavior models: The design of a tool for reasoning about information propagation**
E. Carlson, J. Pfautz and D. Koelle, USA
- **Challenges and approaches for automating HSCB decision-making**
M. Gosnell, D. Spurlock and W. Noll, USA

SESSION 41: Physical Ergonomics

CHAIR: H. Strasser, Germany

SANDRINGHAM

8:00-10:00

- **Ergonomics aspects of CNC-units - A survey among trainees**
A. Klussmann I. Levchuk, A. Schafer and K. -H. Lang, Germany
- **Measuring performance of office work: An overview of test-procedures**
H. Gebhardt, I. Levchuk, C. Muehlemeyer and K. Bux, Germany
- **Age-related physiological strain of male order-pickers in deep cold**
K. Kluth, M. Penzkofer and H. Strasser, Germany
- **Order-picking in deep cold - A gender-related analysis of subjectively assessed effects**
M. Penzkofer, K. Kluth and H. Strasser, Germany
- **Act and anticipate hazard perception training for young-inexperienced drivers**
A. Meir, A. Borowsky, T. Oron-Gilad, Y. Parmet and D. Shinar, Israel
- **The effects of correlated color temperature and illuminance on color discrimination**
W. Cheng, Y. Lin and Y. Sun, P. R. China
- **The effects of repetitive lifting on lumbar spinal motion in a young and middle-aged population**
M. Boocock, G. Mawston and R. Smith, New Zealand

SESSION 42: Developing Multimodal Virtual Training Platforms for Perceptual Motor Skills

CHAIR: D. Gopher, Israel

WINDSOR

8:00-10:00

- **Haptics technologies in the framework of training systems: From simulators to innovative multi-modal virtual environment systems**
M. Bergamasco, C. A. Avizzano and E. Ruffaldi, Italy
- **An enactive approach to perception-action and skill acquisition in virtual reality environments**
B. Bardy D. Delignières, J. Lagarde, D. Mottet and G. Zelic, France
- **Skill training in multimodal virtual environments**
D. Gopher, S. Krupenia and N. Gavish, Israel
- **Digital management and representation of perceptual motor skills**
C. A. Avizzano, E. Ruffaldi and M. Bergamasco, Italy
- **A VR training platform for maxillo facial surgery**
F. Gosselin, C. Megard, S. Bouchigny, F. Ferlay, F. Taha, P. Delcampe and C. D'Hauthuille, France
- **Skill modeling and feedback design for training rowing with virtual environments**
E. Ruffaldi, A. Filippeschi, C. A. Avizzano and M. Bergamasco, Italy
- **The disadvantageous but appealing use of visual guidance in procedural skills training**
N. Gavish and E. Yechiam, Israel

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SESSION 43: Ergonomics in Building and Architecture	
CHAIR: J. Charytonowicz, Poland	
8:00-10:00 BALMORAL	<ul style="list-style-type: none"> • Building with reclaimed materials in view of ergonomic design M. Skowronski and J. Charytonowicz, Poland • Temporary architecture - Building, exploitation, demolition P. Nowakowski, Poland • Psychological aspects of residential bathroom design A. Jaglarz, Poland • Ergonomic aspect of urban and social dynamics A. Bonenberg, Poland • Beauty and ergonomics of living environment W. Bonenberg, Poland
SESSION 44: Comfort: Seating	
CO-CHAIRS: P. Vink, The Netherlands, and S. Hallbeck, USA	
8:00-10:00 CHOPIN BALLROOM	<ul style="list-style-type: none"> • Influences of different dynamic office chairs on muscular activation, physical activity and posture R. Ellegast, Germany, K. Keller, Germany, H. Berger, Germany, L. Groenesteijn, The Netherlands, and P. Vink, The Netherlands • Influences of office tasks on body dynamics using dynamic office chairs L. Groenesteijn, The Netherlands, P. Vink, The Netherlands, R. Ellegast, Germany, K. Keller, Germany, and H. Berger, Germany • A review on comfort and seating S. Openshaw, USA • Development and comfort analysis of a chair for microscopic surgery K. Noro, T. Naruse, N. Nao-i and M. Kozawa, Japan • Office ergonomics interventions: Examining the effects on musculoskeletal risk, environmental control and comfort M. Robertson, USA, B. Amick, USA/Canada, Y. H. Huang, USA, and G. Kernan, USA
SESSION 45: Ergonomic Expert Systems and Ergonomic Risk Assessment Methods	
CO-CHAIRS: S. Pavlovic-Veselinovic, Serbia, and A. Hedge, USA	
8:00-10:00 TRADE	<ul style="list-style-type: none"> • An expert system for risk assessment of work-related musculo-skeletal disorders S. Pavlovic-Veselinovic, Serbia, A. Hedge, USA, and M. Grozdanovic, Serbia • Bridging the disconnect between back injuries and prevention using interactive computer-based systems R. J. Banks and J. A. Hay, USA • The method for risk assessment of accident caused by technological process, human factor and environment M. Grozdanovic, E. Stojiljkovic and D. Grozdanovic, Serbia • Computerised link analysis Y. Zhao, S. Hignett and N. Mansfield, UK • A first step towards an integrated warning approach K. Maier, H. Sacher and J. Hellbruck, Germany • Evaluation of exposure to risk factors of UEMSDS by the Comprehensive Exposure Index (CEI) model S. A. Moussavi-Najarkola, Iran • Manufacturing process improvement based on reducing of ergonomics risks in woodworking enterprise H. Kalkis, I. Rezepina, V. Praude, Z. Roja and V. Kalkis, Latvia
SESSION 46: Human Performance in Safety-Critical Systems	
CHAIR: H. Liao, USA	
8:00-10:00 ESCORIAL	<ul style="list-style-type: none"> • Apply human error analysis and classification system on investigating human error events in the advanced main control room J. Y.-T. Jou, P. R. China • A cross-cultural study on the user motivations and behaviors of online knowledge sharing E. Nohdurft, Q. Gao and B. Zhu, P. R. China • An extended study on human performance in control rooms of nuclear power plants H. Liao and J. -L. Chang, USA • Making it right: The critical performance influence factors for offshore drilling and wireline operations B. Vignes and J. Liyanage, Norway

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SESSION 47: Human Factors in Manufacturing II

CO-CHAIRS: B. Kapitaniak, France, and S. Zschernack, South Africa

ALHAMBRA

8:00-10:00

- **Evaluation of ergonomic design of popular residential chairs manufactured in furniture clusters of Brazil**
P. Fialho, A. P. Souza, L. Minette and J. Silva, Brazil
- **Contemporary aspects in design of work**
A. Kawecka-Endler and B. Mrugalska, Poland
- **The effect of glove fit on task performance**
S. Zschernack and J. Stack, South Africa
- **Teaching in real time – development of a virtual immersive manikin implemented in real time systems**
F. Sulzmann and K. Meinken, Germany
- **Ergonomic evaluation of workload from deburring action done with the vibrating hand-tool**
H. Arabi, A. Morais, B. Kapitaniak and C. Gueydan, France
- **Optimizing humidity level to enhance worker performance in automotive industry**
A. R. Ismail, M. Y. M. Yusof, B. M. Deros, M. R. A. Rani and M. M. Noor, Malaysia
- **Chaku-Chaku assembly system – A new trend in the automotive industry. First results of the ergonomic evaluation on a case study**
J. A. Enríquez Díaz, S. Schiekirka, M. Arenius, F. Ekkehart and O. Straeter, Germany

SESSION 48: Neuroergonomics in the Air Force

CHAIR: J. Warm, USA

RAPHAEL

8:00-10:00

- **Learning effects in physiologically activated adaptive aiding**
J. Christensen, J. Estep, I. Davis and G. Wilson, USA
- **Static and dynamic discriminations in vigilance: Effects on cerebral hemodynamics and workload**
M. Funke, USA, J. Warm, USA, G. Matthews, USA, V. Finomore, Jr., USA, M. Vidulich, USA, B. Knott, USA, W. Helton, New Zealand, T. Shaw, USA, and R. Parasuraman, USA
- **Visual attention in a team C2 change blindness task**
B. Knott, G. Funke, C. Knott, B. Miller and A. Panganiban, USA
- **A predictive model of cognitive performance under acceleration stress**
R. McKinley, J. Gallimore and L. Tripp, USA
- **Infrasonic analysis of human speech: An index of workload**
C. McClernon, M. Middendorf, B. Knott, G. Funke and M. Harter, USA
- **Developing methods for utilizing physiological measures**
L. Reinerman-Jones, D. Barber, S. Lackey and D. Nicholson, USA
- **Towards adaptive automation: A neuroergonomic approach to measuring workload during a command and control task**
T. Shaw, R. Parasuraman, L. Guagliardo and E. de Visser, USA
- **Human performance effects of decreased cerebral tissue oxygen saturation induced by various levels of mixed oxygen/nitrogen**
L. Tripp, USA
- **Physiological day-to-day variability effects on workload estimation for adaptive aiding**
G. Wilson, C. Russell, J. Monnin, J. Estep and J. Christensen, USA

SESSION 49: 3D Human Body Scan and Body Modeling Session

CO-CHAIRS: B. Corner and S. Rajulu, USA

MICHELANGELO

8:00-10:00

- **Modeling the impact of space suit components and anthropometry on the center of mass of a seated crewmember**
C. Blackledge, S. Margerum, M. Ferrer, R. Morency and S. Rajulu, USA
- **4D anthropometry: Measurement and modeling of whole body surface deformation for sports garment design**
M. Mochimaru, Japan, and S. -I. Park, Korea
- **Simulation of body shape after weight changes for health-care services**
M. Kouchi and M. Mochimaru, Japan
- **EARS: Toward fast analysis of 3D human scans**
X. Yin, B. Corner and A. Razdan, USA
- **Comparison of anthropometry obtained from a first production millimeter wave three-dimensional whole body scanner to standard direct body measurements**
B. Corner, P. Li, M. Coyne, S. Paquette and D. McMakin, USA
- **Creating an average shoulder model from three-dimensional surface scans**
P. Li, B. Corner and S. Paquette, USA

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SESSION 50: Patient Safety

CHAIR: N. Semmer, Switzerland

8:00-10:00 BAYFRONT B

- **Working conditions in health care and work specific cognitive failure - A questionnaire study**
A. Elfering, S. Grebner and A. Dudan, Switzerland
- **Working conditions and patient safety - an event sampling study**
S. Grebner, N. K. Semmer and A. Elfering, Switzerland
- **Team coordination and performance during simulated and real anesthesia inductions**
G. Grote, M. Kolbe, J. Wacker and D. Spahn, Switzerland
- **Leadership and minimally invasive training enhance performance in medical emergency driven teams: Simulator studies**
N. K. Semmer, F. Tschan, S. Hunziker and S. U. Marsch, Switzerland
- **Decisive action vs. joint deliberation: Different medical tasks imply different coordination requirements**
F. Tschan, N. K. Semmer, S. Hunziker and S. U. Marsch, Switzerland
- **Proactive design of a hospital environment with multifaceted ergonomic considerations**
H. Nam, F. Costa, M. Romero and G. Andreoni, Italy
- **Security management in the working place**
A. Rabenda, Poland

10:00 - 10:30 Refreshments will be provided in the Exhibits area

SESSION 51: Cultural Models for Decision Making

CHAIR: P. Wu, USA

10:30 - 12:30 THEATER

- **An architecture for socio-cultural modeling**
G. A. Boy, USA
- **An evidence-based framework for decision making in culturally complex environments**
L. Costa, USA
- **Intertemporal reasoning and cross-cultural decision making**
D. MacGregor and J. Godfrey, USA
- **Target audience simulation kit: Modeling culture and persuasion**
G. Taylor, K. Knudsen, R. Marinier III, M. Quist and S. Furtwangler, USA
- **Cultural network analysis: Method and application**
W. Sieck, USA
- **A multi-scale model of cultural distinctions in technology adoption**
E. Briscoe, C. J. Hutto, C. Blunt, E. Trehwitt, L. Weiss, E. Whitaker and D. Folds, USA
- **Cultural influences associated with adversarial recruitment**
L. Weiss, E. Whitaker, E. Briscoe, E. Trehwitt and M. Gonzalez, USA

SESSION 52: Impact of Display Design on Human Performance

CO-CHAIRS: C. Ling, USA, and M. Nakanishi, Japan

10:30 - 12:30 THEATER

- **Learning to monitor aircraft datablock with different complexity levels**
C. Ling and L. Hua, USA
- **Impact factors of three-dimensional interface**
Y. -C. Huang, C.-C. Su, F.-G. Wu and C. -H. Chen, Taiwan
- **Digital manual with wearable retinal imaging display for the next innovation in manufacturing**
M. Nakanishi and T. Sato, Japan
- **A basic study on model of human behavior by visual information processing mechanism for reliability-based system design**
K. Yamanaka, M. K. Park and M. Kawakami, Japan
- **The major quality factors on two-views autostereoscopic displays**
P. -C. Wang, H.-Y. Huang, C.-F. Chuang, S.-L. Hwang, K. Lee and J. -C. Yang, Taiwan

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SESSION 53: Cultural Effect on Team Behaviors

CO-CHAIRS: Y. Liu and R. Warren, USA

10:30 - 12:30
WINDSOR

- **The multiplicities of culture: Understanding the complexities of culture and its potential role in distributed team effectiveness**
S. L. Connaughton, USA
- **Human-computer negotiation: Learning from different cultures**
S. Kraus, USA
- **Evolving problem-solving performance by mixed-culture dyadic teams**
R. Warren, USA
- **Trust development in distributed multi-cultural teams: Agent-based modeling and simulation**
Y. Liu, USA

SESSION 54: Social & Organizational Ergonomics I

CO-CHAIRS: A. W. Nilsson, Sweden and K. Itoh, Japan

10:30 - 12:30
BALMORAL

- **The multidisciplinary in the development of work systems conception works projects: A review of theoretical-practical about the subject**
L. Gontijo, G. Balbinotti, A. Motter and M. Guaragni, Brazil
- **Safety climate in truck transportation: Field studies of their levels correlated with safety outcomes**
Y. Li and K. Itoh, Japan
- **The guidelines for the sociotechnical subject: The practical results about the subject**
G. Balbinotti, Brazil, L. Gontijo, Brazil, A. Trautvein, Brazil, A. Motter, Brazil, and M. Robertson, USA
- **Reflection-for-action: A collaborative approach to the design of a future factory**
A. Wikberg Nilsson and S. Johansson, Sweden
- **Using operational sequence diagrams to assess interagency coordination in traffic incident management**
R. Feyen, USA
- **A challenge for the future: Efficient, attractive and sustainable factories**
S. Johansson and A. Wikberg Nilsson, Sweden
- **How novice instructor can learn a stable evaluation in report assignment with no predetermined rules**
T. Akasaka and Y. Okada, Japan

SESSION 55: Postural Modeling for Assessing Ergonomic Product Design

CO-CHAIRS: A. Hedge and D. Feathers, USA

11:00 - 12:30
CHOPIN BALLROOM

- **Ergonomic assessment of pronating-reducing mouse designs: Anatomical compliance in three-dimensional space**
D. Feathers, A. Hedge, and K. Rollings, USA
- **Ergonomic comparison of five mouse designs: Performance and posture differences**
A. Hedge, D. Feathers and K. Rollings, USA
- **Development of 3D ergonomics requirement models for cabin development**
A. Sundin, J. Landen, A. Hedberg and J. Holler, Sweden
- **Five-key text entry: An empirical comparison of novice performance with three keyboard layouts**
B. Millet, S. Asfour, J. R. Lewis and A. Onar-Thomas, USA
- **Tactile buttons used in non-visual cell phone**
N. -F. Chen, F.-G. Wu and C. -H. Ho, Taiwan
- **Exploring what young consumers want in cell phones**
F. Calisir and C. A. Gumussoy, Turkey
- **Designing small touch-screen devices: The impact of display size on pointing performance**
M. Oehl and F. Siebert, Germany

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SESSION 56: Human Factors Military Applications

CHAIR: V. Rice, USA

10:30 - 12:30 TRADE

- **Development of a remote medical monitoring system to meet soldier needs**
W. J. Tharion, M. J. Buller, A. J. Karis and R. W. Hoyt, USA
- **Self-reported sleep and soldier performance**
V. Rice, J. Butler and D. Marra, USA
- **Ergonomics evaluation of an exoskeleton prototype**
J. M. Schiffman, K. N. Gregorczyk, L. Hasslequist, C. K. Bensele, J. P. Obusek, D. Gutekunst and P. Frykman, USA
- **Investigating the performance of an autonomous driving capability for military convoys**
J. Davis and E. Schoenherr, USA
- **The effects of chemical/biological protective patient wraps on the simulated physiological responses of Soldiers**
M. Yokota, T. Endrusick, J. Gonzalez and D. MacLeod, USA
- **Assessment of soldier performance: A comprehensive and integrated approach**
L. Hasselquist, E. Zambraski, J. Augustyn, L. Banderet, L. Blanchard and C. Bensele, USA
- **The effects of encumbering the soldier with body armor**
L. Hasselquist, K. Gregorczyk, B. Corner and C. Bensele, USA

SESSION 57: Organizational Issues in Safety and Performance

CO-CHAIRS: W. Zhang and R. Yu, P. R. China

10:30 - 12:30 ESCORIAL

- **Challenges of Beijing road transportation system: An extended application of TOC think processes**
G. Shi, S.-H. Chang and W. Zhang, Taiwan
- **Measuring the performance of a triple-target visual search task**
R. Yu and Z. Kong, P. R. China
- **Analysis of human errors in emergency situation in a nuclear power plant digital control room**
L. Zhang, L. Dai, P. Li and J. Cheng, P. R. China
- **HRA in China: Model and data**
L. Dai, L. Zhang and P. Li, P. R. China
- **The impact of repeated cognitive tasks on driving performance and visual attention**
Y. Wang, B. Reimer, B. Mehler, J. Zhang, A. Mehler and J. F. Coughlin, USA
- **Research on astronaut training methods for complicated operation**
Y. Zhang, X. Zhang, M. Liu, O. Wang and B. Wu, P. R. China
- **Experimental study on the influence of individual cognitive differences on team synergy knowledge integration process**
S. Yi, L. Su, W. Wang, R. Huang and N. Zhang, P. R. China

SESSION 58: Warnings for Consumer Products and Environments

CO-CHAIRS: C. Mayhorn and M. S. Wogalter, USA

10:30 - 12:30 ALHAMBRA

- **Behavioral compliance in virtual reality: Effects of warning type**
E. Duarte, Portugal, F. Rebelo, Portugal, J. Teles, Portugal, and M. Wogalter, USA
- **The effects of background color of safety symbols on perception of the symbols**
C. K. Or and A. H. S. Chan, Hong Kong
- **Perceptions of sport-utility vehicle (SUV) safety by SUV drivers and non-drivers**
C. Mayhorn, M. Wogalter and V. Conzola, USA
- **The distribution of pedestrian-backing vehicle accidents by back-up alarm status and vehicle type**
J. P. Purswell and J. L. Purswell, USA
- **Sunscreen labeling and warnings: A human factors analysis**
K. Burke, J. Dorris and N. Dorris, USA
- **Direct-to-consumer (DTC) prescription drug advertising: Exploring self-reports of media exposure and associate behaviors**
R. Goldsworthy and C. Mayhorn, USA

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SESSION 59: Training for Unmanned Aircraft Systems

CHAIR: K. Stanney, USA

10:30 - 12:30
RAPHAEL

- **Training for unmanned aircraft systems: Operational challenges, theoretical constructs, training science, technologies, and applications**
J. J. Burns, M. Langelier and D. Evans, USA
- **Understanding linkages between brain-body-environment in unmanned systems research**
S. M. Fiore and D. Pavlas, USA
- **Theoretical constructs of UAS training**
E. Viirre, K. Gramann, and S. Wing, USA
- **A framework for improving situation awareness of the UAS operator through integration of tactile cues**
M. Johnston, K. Stanney, K. Hale and R. Kennedy, USA
- **Adaptive training in an unmanned aerial vehicle: Examination of several candidate real-time metrics**
C. Sibley, A. Cole, G. Gibson, D. Roberts, J. Barrow, C. Baldwin and J. Coyne, USA
- **Training needs for units with small unmanned aerial systems**
P. J. Durlach, USA
- **Serious games for UAS training**
M. White, USA

SESSION 60: DHM in the Bayesian Programming Framework

CO-CHAIRS: C. Moebus, Germany, and P. Bessiere, France

10:30 - 12:30
MICHELANGELO

- **Mixture-of-behaviors and levels-of-expertise in a Bayesian autonomous driver model**
C. Möbus and M. Eilers, Germany
- **Learning of a Bayesian autonomous driver mixture-of-behaviours (BAD-MoB) model**
M. Eilers and C. Möbus, Germany
- **Modelling lateral and longitudinal control of human drivers with multiple linear regression models**
J. Lenk and C. Möbus, Germany
- **A unified theoretical Bayesian model of speech communication**
C. Moulin-Frier, J.-L. Schwartz, J. Diard and P. Bessiere, France
- **Bayesian modeling of human performance in a visual processing training software**
J. Diard, M. Lobier and S. Valdois, France

SESSION 61: Human-System Interface

CHAIR: C. K. L. Or, Hong Kong

10:30 - 12:30
BAYFRONT B

- **Human reliability of prescription preparing processes**
C. -W. Lu, W.-J. Chang, J.-P. Cheng, S.-Y. Tsai and C. -L. Huang, Taiwan
- **Skeleton extraction from 3D dynamic meshes**
W. Wu, A. Hao and Z. Yongtao, P. R. China
- **Importance of human factors engineering in healthcare and implementation in patient safety**
O. Yildirim, C. Cetin, T. A. Aktas and A. Akdas, Turkey
- **An analytical framework to measure effective human machine interaction**
J. Wachs and B. Duerstock, USA
- **Slip-resistance at footwear-floor interface under footwear and floor tile surface geometric conditions**
K. Li, Taiwan
- **Survey of health problems for long-haul flight travelers**
B. -S. Liu and C. -C. Wu, Taiwan
- **Integrated role of ergonomist and physiotherapist in apparel machinist health care -An overview**
N. Mustafa, India

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SESSION 62: Cross-Cultural Competence

CHAIR: A. Abbe, USA

13:30 - 15:30 THEATER

- **Development of the Cross-Cultural Competence Inventory (3CI)**
K. Ross, C. Thomson, D. McDonald, B. Fritzsche and H. Le, USA
- **Modeling and assessing cross-cultural competence in operational environments**
M. McCloskey and K. Behymer, USA
- **Identifying and assessing a schema for cultural understanding**
J. Rentsch, I. Mot and A. Abbe, USA
- **Using cultural models of decision making to develop and assess cultural sensemaking competence**
L. Rasmussen, W. Sieck and J. Osland, USA
- **Designing games as social-process simulation crucible experiences: Toward developing and assessing intercultural adaptability**
E. Raybourn, USA
- **Cross-cultural decision making strategies: Contrasts between Cherokee Native American and Australian college students**
J. King, K. Tempel and J. Draguns, USA

SESSION 63: 1st International Symposium in Ergonomics in Design: Product Ergonomics

CO-CHAIRS: M. Soares, Brazil and F. Rebelo, Portugal

13:30 - 15:30 SANDRINGHAM

- **The effects of explicit alternative generation techniques in consumer product design**
F. Campos, M. Soares, W. Correia, R. Ferreira, E. Melo and A. Correia, Brazil
- **Usability: Timeline and emotions**
A. Neves and M. Okimoto, Brazil
- **The safety of consumer products under the perspective of usability: Assessment of case studies involving accidents with users in Recife, Brazil**
W. Correia, M. Soares, M. Barros, F. Campos and V. Gallindo, Brazil
- **Ergodesign: A systemic and systematic approach: How the task activities determine the product conception and configuration**
A. de Moraes, Brazil
- **XDM - eXtensible Design Methods**
A. Neves, F. Campos, S. Campello, L. Castillo and L. Falcão, Brazil
- **The usability of data entry in GPS navigation systems**
M. Quaresma and A. de Moraes, Brazil
- **Usability of the industrial firing: An anthropometric analysis of the traditional and the smart system**
A. Calado and M. Soares, Brazil

SESSION 64: Comfort: Intelligent Products/The Process/Tools

CO-CHAIRS: P. Vink, The Netherlands, and S. Hallbeck, USA

13:30 - 15:30 WINDSOR

- **Spine load in the context of automotive seating**
R. Zenk, M. Franz and H. Bubb, Germany
- **Innovative ways of working: A comparison of a traditional and a flexible office environment on office space use, performance, privacy and satisfaction**
M. Blok, L. Groenesteijn, M. Formanoy, E. de Korte and P. Vink, The Netherlands
- **Participatory ergonomics in a mobile factory: Ergonomic device to decrease neck pain**
S. A. Miguez, Brazil/The Netherlands, P. Vink, The Netherlands, and M. S. Hallbeck, USA
- **The effects of expectations and an office environment on comfort experience**
C. Bazley, USA, and P. Vink, The Netherlands
- **Design and testing of a support of ad hoc communication for tacit workers**
F. Hickmann, The Netherlands, A. de Jong, The Netherlands, D. Keyson, The Netherlands, and S. Viegers, USA
- **Discomfort and other measures for the assessment of postural load**
D. Kee and I. Lee, Korea
- **Comfort and discomfort in gripping exertion**
Y. K. Kong, D. M. Kim, K. S. Lee and M. C. Jung, South Korea

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SESSION 65: Application of Cognitive Ergonomics

CO-CHAIRS: H. Bubb and K. Bengler, Germany

13:30 - 15:30 BALMORAL

- **Automated analysis of eye-tracking data for the evaluation of driver information systems according to EN ISO 15007-1 and ISO/TS 15007-2**
R. Spies, W. Hamberger, A. Blattner, H. Bubb and K. Bengler, Germany
- **Haptic gear shifting indication: Naturalistic driving study for parametrization, selection of variants and to determine the potential for fuel consumption reduction**
C. Lange, A. Arcati, H. Bubb and K. Bengler, Germany
- **Adaptive haptic touchpad for infotainment interaction in cars - How many information is the driver able to feel?**
R. Spies, W. Hamberger, A. Blattner, H. Bubb and K. Bengler, Germany
- **Development of glance movements in critical intersection scenarios**
M. Plavsic, K. Bengler and H. Bubb, Germany
- **Development of an objective evaluation system for advanced driver assistance systems based on subjective criteria - demonstrated by the example of ACC**
B. Strasser, H. Bubb, K.-H. Siedersberger and M. Maurer, Germany
- **Contact analog information in the head-up display: How much information supports the driver?**
B. Israel, M. Seitz, H. Bubb and B. Senner, Germany
- **A methodology for evaluating multiple aspects of learnability: Testing an early prototype of the new BMW iDrive**
B. Reimer, USA, B. Niedermaier, Germany, K. Bengler, Germany, B. Mehler, USA, and J. Coughlin, USA

SESSION 66: Design for All

CHAIR: K. Meinken, Germany

13:30 - 15:30 CHOPIN BALLROOM

- **OASIS HMI: Design for elderly - A challenge**
V. Melcher, Germany, J.-P. Leuteritz, Germany, M. Panou, Greece, and A. Leonidis, Greece
- **Ergonomic workplace design for the elderly: Empirical analysis and biomechanical simulation of information input on large touch screens**
S. Vetter, J. Bützler, N. Jochems, C. M. Schlick, Germany
- **Handwriting starts at childhood: A systematic review of variations on handwriting grip**
M. Diaz Meyer, L. Sica, A. Sinn-Behrendt and R. Bruder, Germany
- **Doing the laundry: Different strokes for different folks**
N. Busch, Germany, and H. Christiaans, The Netherlands
- **An ergonomic study of organization of food in a smart kitchen**
A. Deb and D. Deb, USA
- **Autism and the orbiTouch keyless keyboard**
P. McAlindon, C. Mayo and B. DeLater, USA
- **Design of a mobile social community platform for Chinese older people**
D. Ebert, X. Chen, Q. Gao and P. -L. Rau, P. R. China

SESSION 67: Systems Safety Engineering

CHAIR: M. Lehto, USA

13:30 - 15:30 TRADE

- **Clarifying the hierarchical approach to hazard control**
S. Hall, S. Young, J. Frantz, T. Rhoades, C. Burhans and P Adams, USA
- **Risk control through the use of procedures: A method for evaluating the change in risk**
G. Praino and J. Sharit, USA
- **Plant safety certification case study**
J. Lin, Mexico
- **Adaptive, self-organizing hazard communication networks**
D. Y. Lee and M. R. Lehto, Korea
- **Government, warnings, safety information: A comparison of inter-agency regulations and guidance**
J. Sala, E. Nichols, R. Muhammad, S. Lakhiani, R. Rauschenberger and C. Wood, USA
- **Automated analysis of injury narratives: Some lessons learned**
H. Marucci-Wellman, M. Lehto, H. Corns and G. Sorock, USA
- **First do no harm: The unintended consequences of embedding technology in healthcare**
A. Zafar and M. Lehto, USA

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SESSION 68: Levels of Automation and Task Allocation in Manufacturing

CHAIR: J. Stahre, Sweden

13:30 - 15:30
ESCORIAL

- **Level of automation analysis in manufacturing systems**
Å. Fasth, J. Stahre and K. Dencker, Sweden
- **Limits of control in advanced technology and consequences for reassigning accountability**
G. Grote, Switzerland
- **SOCA-CAT in CWA to analyse functional allocations in manufacturing**
N. Stanton, UK
- **Allocation of functions: A socio-technical systems perspective**
R. Challenger and C. Clegg, UK
- **The operator saves our day? - Why do we need the operator?**
K. Dencker, L. Mårtensson, Å. Fasth and J. Stahre, Sweden
- **Product maturity, security and software engineering**
G. Boy, R. Ford and R. Henning, USA
- **An analysis of the impact of trends in automation on roles in radiotherapy using function allocation**
E. Fallon, L. Chadwick and W. van der Putten, Ireland

SESSION 69: DHM Applications I

CO-CHAIRS: J. Charland and R. Green, Canada and USA

13:30 - 15:30
ALHAMBRA

- **New capabilities for vision-based posture prediction**
L. Knake, A. Mathai, T. Marler, K. Farrell, R. Johnson and K. Abdel-Malek, USA
- **A method for positioning digital human models in airplane passenger seats**
R. F. Green and J. Hudson, USA
- **DHM for ergonomical assessment of home appliances**
M. Mazzola, E. Preatoni, N. Emmanuele, M. Romero, F. Costa and G. Andreoni, Italy
- **On the creation of 3D libraries for F-16 pilots in their crew station: Method development, library creation and validation**
A. Oudenhuijzen, G. Zehner, J. Hudson and H. Choi, USA
- **Applying design ergonomics to reduce RSIs and MSDs in manufacturing**
W. Gaughran, Ireland
- **Evaluation of neck, shoulders, arms and hands muscles fatigue of sewers using myotonometric method and effectiveness of early multidisciplinary rehabilitation**
Z. Roja, V. Kalkis, H. Kalkis and I. Roja, Latvia

SESSION 70: Model Validation Methods

CHAIR: J. Pellettiere, USA

13:30 - 15:30
RAPHAEL

- **Occupant model validation**
J. Pellettiere and T. Knox, USA
- **Development of the validation criteria and procedure for the HII and HIII FAA Numerical ATDS**
G. Olivares, USA
- **ABMiner: A scalable data mining framework to support human performance analysis**
K. Tang, X. Liu, Y. Tang, V. Manikonda, J. Buhrman and H. Cheng, USA
- **Finite element model calibration of the Ares I-X flight vehicle**
L. G. Horta, M. C. Reaves, R. Buehrle, J. Templeton, D. Lazor, J. Gaspar, R. Parks and P. Bartolotta, USA
- **Occupant response in mine blast using different dummies from two commercial FE codes**
K. Irde, K.-A. Lou, T. Wilhelm and W. Perciballi, USA

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SESSION 71: Human and Organizational Aspects I

CO-CHAIRS: E. Fallon, Ireland, and V. G. Duffy, USA

MICHELANGELO

13:30 - 15:30

- **Reduction of physical load at the waist of a care worker using muscle suit**
M. Sakurai, T. Inoue, M. Nakanishi and S. Yamamoto, Japan
- **Practicing user-centered design to reduce call time and improve the accuracy in a medical triage system**
B. Reed, P. Hyle, J. Dundas and S. Schneider, USA
- **A mobile proposal for nursing care through touch-based interaction and information filtering**
J. F. Diezma, M. C. Fuentes Gómez, C. S. Barba, R. H. Lucas and J. B. Rodriguez, Mexico
- **The impact of usability in emergency telemedical services**
S. Beul, S. Mennicken, M. Ziefle, E.-M. Jakobs, D. Wielpütz, M. Skorning and R. Rossaint, Germany
- **The intermittent duty of information and communication technology among immediate superiors of social and health care services - A research and development project**
S. Tuomivaara and K. Eskola, Finland
- **Exposure of vibration to bus and train passengers**
A. R. Ismail, N. F. Kamaruddin, M. Z. Nuawi and M. J. M. Nor, Malaysia

SESSION 72: Patient Handling

CHAIR: S. Hignett, UK

BAYFRONT B

13:30 - 15:30

- **Targeting environmental factors to reduce elderly in-patient falls**
S. Hignett, G. Sands, J. Youde and P. Griffiths, UK
- **Design for patient and staff safety**
L. Wolf, USA
- **Design considerations in the provision of safe patient handling environments**
M. Matz, USA
- **Use of effective patient-handling techniques within healthcare**
A. Baptiste and S. Applegarth, USA
- **A tool to compare all patient handling interventions**
M. Fray and S. Hignett, UK
- **Evaluation of an intervention to reduce upper extremity pain in ultrasound**
S. Joines, T. James and G. Suarez, USA

15:30 - 16:00 Refreshments will be provided in the Exhibits area

SESSION 73: Impact of Culture on Collaboration and Negotiation

CO-CHAIRS: S. Burke and M. Salazar, USA

THEATER

16:00 - 18:00

- **Multicultural teams: Critical team processes & guidelines**
M. Shuffler, S. Burke, E. Salas and M. Gelfand, USA
- **How to build consensus in negotiation? A dynamic theory of mental models within and across cultures**
L. Liu, R. Friedman, B. Barry, M. Gelfand, USA and Z. Zhang, P. R. China
- **Culture and escalation of commitment**
H. Ting, M. Gelfand and L. Leslie, USA
- **Cultures of fate: Implications for risk-taking**
M. Gelfand, USA, C. A. Fulmer, USA, A. Kruglanski, USA, A.-H. Abdel-Latif, Egypt, H. Khashan, Lebanon, H. Shabka, Egypt, and M. Moaddell, USA

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SESSION 74: 1st International Symposium in Ergonomics in Design: Ergonomics in the Workplace Design

CO-CHAIRS: M. Soares, Brazil and F. Rebelo, Portugal

16:00 - 18:00 WINDSOR

- **Evaluation of the surgeon's workload from three hospitals in Brazil**
R. Diniz and L. Guimarães, Brazil
- **Ergonomic design of diagnostic ultrasound transducer: Analysis, redesign/ modeling, simulation/assessment and product**
L. C. Paschoarelli, H. G. Coury, A. B. Oliveira and J. C. P. Silva, Brazil
- **Developing a sustainable system for attending the basic needs of the Brazilian population in the bottom of the pyramid (BOP)**
L. Guimaraes, Brazil
- **The decision-making process for wayfinding in close environments by blind people**
L. Martins, F. de Lima and M. Almeida, Brazil
- **Ergonomic and control rooms: A case study of a hydroelectric enterprise**
C. Vasconcelos and M. Soares, Brazil
- **Ergonomics for elderly people: A Brazilian case study in mass public transport**
J. Câmara and L. Fiuza, Brazil
- **Ergonomic pattern mapping – A new method for participatory design processes in the workplace**
M. Santos, M. Vidal and P. Carvalho, Brazil

SESSION 75: Developing Work in Collaborative Organizations

CO-CHAIRS: O. Sørensen and P. Hasle, Denmark

16:00 - 18:00 BALMORAL

- **Collaborative design of workplaces: The role of boundary objects**
O. Broberg, R. Seim and V. Andersen, Denmark
- **Job-redesign in knowledge work**
O. H. Sørensen, Denmark, and D. Holman, UK
- **Prevention of work-related stress in practice – A participatory approach**
C. Ipsen, P. L. Jensen and V. Andersen, Denmark
- **Perceived time, temporal order and control in boundaryless work**
H. Lund, H. Hvid and A. Kamp, Denmark
- **The paradox of lean in healthcare: Stable processes in a reactive environment**
A. P. Nielsen and K. Edwards, Denmark
- **Professional assessment and collective standards - lean in a cancer department**
P. Hasle, Denmark

SESSION 76: Prospective Tactile and Haptic Interactions

CO-CHAIRS: S. Yamamoto and M. G. Shimase, Japan

16:00 - 18:00 CHOPIN BALLROOM

- **Effective presentation for velocity and direction information produced by using tactile actuator**
K. Kotani, T. Yu, T. Asao and K. Horii, Japan
- **Evaluation of dynamic touch using moment of joint inertia**
T. Asao, Y. Kumazaki, K. Kawanishi, K. Kotani and K. Horii, Japan
- **Can tactile kiosk attract potential users in public?**
Y. Yasuma, M. Nakanishi and Y. Okada, Japan
- **Improvement in touch operations by tactile feedback**
T. Fukui, M. Nakanishi, Y. Okada and S. Yamamoto, Japan
- **Universal communication through touch panel**
N. Hosono, H. Inoue, H. Miki, M. Suzuki and Y. Tomita, Japan
- **Study on a haptic interaction with touch panel**
D. Kobayashi and S. Yamamoto, Japan
- **Using a GPS-based tactile belt to assist in robot navigation**
L. R. Elliott, E. S. Redden and R. A. Pettitt, USA

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SESSION 77: Design and Research for Special Populations

CHAIR: J. Molenbroek, The Netherlands

16:00 - 18:00
TRADE

- **Collecting data about elderly and making them available for designers**
J. Molenbroek and B. Steenbekkers, The Netherlands
- **Bridging the technology divide through novel approaches to interaction design**
D. Keyson, The Netherlands
- **Application of 3D digital human models in product design: a case study on public transport vehicle**
V. Santos, J. L. Luis Oliveira, R. Cobbe, C. P. Guimarães, M. C. Zamberlan, F. Pastura, G. L. Lopez Cid, A. Paranhos and N. Pallamin, Brazil
- **Situational disabilities in firefighting - Impact on communications**
J. Järvinen USA
- **Squatting or sitting: Alla turca or alla franca?**
O. Demibilek, Australia
- **Representing unstructured user data for inclusive designers**
F. Nickpour and H. Dong, UK

SESSION 78: Warnings as an Issue in Forensic (legal) Investigations

CO-CHAIRS: M. S. Wogalter, C. Mayhorn and K. R. Laughery, USA

16:00 - 18:00
ESCORIAL

- **What constitutes typical adolescent behavior and how does it differ from adult conduct?**
M. Vredenburgh, I. Zackowitz, D. Spencer, M. De Taboada and A. Vredenburgh, USA
- **Hazard perceptions of consumer products**
W. Vigilante, Jr. and R. Lim, USA
- **The smell of danger: Natural and LP gas odorization**
W. Cain, USA
- **Human factors consideration in the detection of gas leaks**
M. S. Wogalter and K. Laughery, USA
- **Reliance on warnings as the sole remedy for certain hazards: Some circumstances where that just doesn't work**
E. Karnes, D. Lenorovitz and S. Leonard, USA
- **The safety hierarchy and its role in safety decisions**
K. Laughery and M. Wogalter, USA

SESSION 79: Motion Analysis and Simulation or Comfort/Discomfort

CHAIR: X. Wang, France

16:00 - 18:00
ALHAMBRA

- **A data-based approach for predicting variation range of hand and foot maximum force on a control: Application to hand brake**
X. Wang, C. Barelle, R. Pannetier, J. Numa and T. Chapuis, France
- **Human simulation under anosognosia and neglect in stroke patients**
N. Ticó-Falguera and E. Peña-Pitarch, Spain
- **Flashpoint organizational profiling: Structured, theory-driven morphological analysis of insurgent networks**
W. Reynolds, M. Weber and J. Holden-Rhodes, USA
- **Human shape modeling in various poses**
Z. Cheng, J. Smith, J. Parakkat, H. Cheng and K. Robinette, USA
- **Experimental research on the confirmation of human body surface reachable grade**
D. Dong, L. Wang and X. Yuan, P. R. China
- **Human modeling and optimization**
T. Marler, USA
- **Testing measures of aviation display clutter for predicting pilot perceptions and flight performance**
K. Kaufmann, D. Kaber, A. Alexander, S.-H. Kim and J. T. Naylor, USA

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SESSION 80: Computational Approaches for DHM

CO-CHAIRS: J. Yang, USA, and C. Moebus, Germany

16:00 - 18:00 RAPHAEL

- **Human jumping motion analysis and simulation-A literature review**
B. Ozsoy, J. Yang and R. Boros, USA
- **Determining weights of joint displacement function in direct optimization-based posture prediction-A pilot study**
Q. Zou, Q. Zhang and J. Yang, USA
- **Toward a new digital pregnant woman model and kinematic posture prediction**
B. Howard, J. Yang and J. Gragg, USA
- **Toward high fidelity headform and respirator models**
Z. Lei and J. Yang, USA
- **A theoretical multi-tasking executive function for the information processing model of the human brain**
J. Kasser, Singapore

SESSION 81: Engineering Modeling in Clinical Settings II

CO-CHAIRS: V. Patel and V. G. Duffy, USA

16:00 - 18:00 MICHELANGELO

- **Nurse hand force and perceived physical effort during dynamic medicine cart pushing on tile and carpet floors**
J. Boyer, J.-H. Lin and C. -C. Chang, USA
- **Relevant analysis on rollover and physical properties of mattresses**
M. Nozaki, K. Noro and T. Sasaki, Japan
- **Information management and decision processes in emergency departments**
G. Pravettoni, Italy, C. Lucchiari, Italy, G. Vago, Italy, and R. Wears, USA
- **A human factors approach to evaluating morphine administration in a pediatric surgical unit**
A. Parush, C. Campbell, J. Ellis, R. Vaillaincourt, J. Lockett, D. Lebreux, E. Wong and E. Pascuet, Canada
- **Linguistic etiquette in social robot interaction with humans in medicine delivery**
B. Zhu and D. Kaber, USA
- **Fuzzy based risk assessment of a HIS implementation: A case study from a Turkish hospital**
G. Yucel, S. Cebi and A. Ozok, Turkey

SESSION 82: Safety of Medication Usage

CO-CHAIRS: M. Ohkura and F. Tsuchiya Japan

16:00 - 18:00 BAYFRONT B

- **How to prevent medication errors**
F. Tsuchiya, Japan
- **Analysis of questionnaire on appearance similarity of PTP sheets**
A. Izumiya, Y. Ootsuki, M. Kimura, M. Ohkura, T. Takaike and F. Tsuchiya, Japan
- **Information system for health: A proposal of an animated instruction guide to design medicine inserts in Brazil**
C. G. Spinillo, J. M. B. de Souza and L. L. R. Barbosa, Brazil
- **Task analysis for reading strategies in medicine inserts: A methodological proposal**
P. Fujita and C. Spinillo, Brazil
- **Analysis on descriptions of precautionary statements in package inserts of medicines**
K. Nabeta, M. Kimura, M. Ohkura and F. Tsuchiya, Japan
- **The standardization of medicine name structures suitable for a prescription entry screen**
M. Kimura, K. Nabeta, M. Ohkura and F. Tsuchiya, Japan
- **Getting better – Steps to go**
S. Bogner, USA

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SESSION 83: Applications of Human, Social, Culture Behavioral Modeling Technology

CHAIR: J. R. Frank, USA

8:00-10:00
THEATER

- **Enabling a comprehensive approach to operations: The value of human social culture behavior modeling**
J. Boiney and D. Schmorow, USA
- **Modeling social conflict: Theory, data and integration across multiple levels**
M. Salwen, E. J. Binstock, B. McCune and A. Arana, USA
- **Cultural decision making through aggregate models of human behavior**
J. Rosen, A. Russell, M. Clark and W. Smith, USA
- **Social radar for smart power**
M. Maybury, USA
- **Information channels in MMOGs: Implementation and effects**
M. Zyda, M. Spraragen, B. Ranganathan, B. Arnason and H. Liu, USA

SESSION 84: Future of Neuroergonomic Research in the Air Force

CHAIR: J. Christensen, USA

8:00-10:00
SANDRINGHAM

This is an open session to discuss the future of neuroergonomic research in the Air Force. Researchers in neuroergonomics from the Air Force Research Lab will solicit input and commentary on what the challenge problems of Air Force interest are that neuroergonomics can help address, discuss our strategy for research in this area, and help identify relevant work we may not be already aware of but should be.

All conference participants are welcome to attend.

SESSION 85: 1st International Symposium in Ergonomics in Design: Virtual Reality in Ergonomic Design

CO-CHAIRS: M. Soares, Brazil and F. Rebelo, Portugal

8:00-10:00
WINDSOR

- **Human interaction data acquisition software for virtual reality: A user-centered design approach**
L. Teixeira, F. Rebelo and E. Filgueiras, Portugal
- **Virtual reality in wayfinding studies: A pilot study**
E. Vilar and F. Rebelo, Portugal
- **A methodological proposal to evaluate the postural response in virtual reality**
E. Filgueiras, F. Rebelo and E. Duarte, Portugal
- **Are people able to develop cognitive maps of virtual environments while performing a wayfinding task?**
E. Vilar, F. Rebelo, L. Teixeira and J. Teles, Portugal
- **Using virtual reality for interior colors selection and evaluation by the elderly**
C. Pacheco, E. Duarte, F. Rebelo and J. Teles, Portugal
- **Optical flow and road environments: Implications for ergonomic road design**
P. Noriega and J. A. Santos, Portugal
- **Training process design: A case study in the sanitation sector**
C. Silva and C. Costa, Portugal

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SESSION 86: Social and Organizational Ergonomics II

CHAIR: L. Pacholski, Poland

BALMORAL

8:00-10:00

- **Macroergonomic development of industrial production processes**
L. Pacholski and B. Mateja, Poland
- **Identification of hazards at a constant work place by means of the map of system work**
T. Musiol and J. Grzesiek, Poland
- **The human factor in lean software development**
A. Borucki and L. Pacholski, Poland
- **Ergonomic features of powered hand tools as an important factor of tools chosen for repair tasks**
E. Tytyk and M. Butlewski, Poland
- **Ecological aspects of macroergonomics**
S. Janik and D. Grygiel, Poland
- **Ergonomic quality of signalling and controlling devices used in laboratorial and industrial control-measuring appliances**
E. Tytyk, A. Tobys, A. Konopczynska and M. Butlewski, Poland
- **Ergonomic conditions for social integration of the disabled**
J. Olszewski, Poland

SESSION 87: Ergonomics Modeling and Usability Evaluation I

CHAIR: J. Gallimore, USA

CHOPIN BALLROOM

8:00-10:00

- **Compensatory tracking of a 3D object using 3D technology**
J. Gallimore, G. Reis, J. Warren, M. Fendley and J. Naga, USA
- **The improvement of Beijing digital information booth interface design**
P. -L. Rau and Y. Sun, P. R. China
- **Design and evaluation approach for increasing compatibility and performance of digital painter in screen drawing tasks**
F. -G. Wu, C.-H. Chen and L. -R. Lai, Taiwan
- **Towards more humane calendar applications**
S. Engemand and S. Keates, UK
- **Modeling of environmental factors towards workers' productivity for automotive assembly line**
A. R. Ismail, M. H. M. Haniff, B. M. Deros, N. K. Makhtar and Z. K. M. Makhbul, Malaysia
- **User-centered smarter robotic medical systems**
T. Ahram, W. Karwowski, B. Amaba and C. Andrzejczak, USA

SESSION 88: Aging and Mobility

CHAIR: A. Simoes, Portugal

TRADE

8:00-10:00

- **Elderly travelers interacting with mobile phone for public transport service: Human centred design issues**
A. Pauzie, A. Bathsavanis and H. Hamama, France
- **The older drivers' adaptive strategies: Some factors of interest**
C. Gabaude, L. Moták and J. -C. Marquié, France
- **Iterative ergonomic design and usability testing for elderly citizens applications**
K. Toulou, M. Panou and E. Bekiaris, Greece
- **Priority implementation scenarios for accessibility of public transport for mobility impaired users**
E. Gaitanidou and E. Bekiaris, Greece
- **Age differences on drivers' needs and wills regarding in-vehicle technologies**
M. Pereira, Portugal
- **Mobility impaired users and usability requests in a context of public transport**
A. Simoes, Portugal
- **Evolution of mobility by public transport and of drivers' working conditions: New relationships between work and aging**
L. Cunha and M. Lacomblez, Portugal

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SESSION 89: Comfort, Safety, Quality and Performance

CHAIR: R. Goonetilleke, Hong Kong

8:00-10:00
ESCORIAL

- **A systems engineering approach to improve healthcare quality**
K. Taaffe, S. Shappell, P. Stringfellow, J. Greenstein, S. Garrett, K. Madathil and A. Gramopadhye, USA
- **Modeling medication impairment and driving safety**
V. G. Duffy, USA
- **Development and pilot test of a usability evaluation protocol for an ergonomic device in a hospital**
P. T. W. So, S. W. C. Cheng, H. P. So and A. H. S. Chan, Hong Kong
- **Heat transfer dynamics in clothing exposed to infrared radiation**
U. Reischl, USA, B. Mijovic, Croatia, Z. Skenderi, Croatia, and I. S. Cubric, Croatia
- **Perception of pressure on foot**
A. Rodrigo, Hong Kong, R. Goonetilleke, Hong Kong, and S. Xiong, P. R. China
- **Technology acceptance and the ageing population: A review**
K. Chen and A. H. S. Chan, Hong Kong
- **Usability evaluation of target expansion schemes in selecting targets with a mouse**
D. Lee, S. Kwon and M. K. Chung, Korea

SESSION 90: Panel: Physiological and Neurophysiological Measures for Workload

CO-CHAIRS: C. Baldwin and J. T. Coyne, USA

8:00-10:00
ALHAMBRA

Panel Participants: M. Crosby, USA, G. Wilson, USA, R. Backs, USA, F. Di Nocera, Italy, and B. Dickson, UK

- **Challenges of using physiological measures for augmenting human performance**
M. Crosby and C. Ikehara, USA
- **South side of the sky: Evidences for two different scanning strategies in the upper and lower visual fields**
F. Di Nocera, M. Camilli, A. D'Arco and S. Fagioli, Italy

SESSION 91: Human Factors in Manufacturing III

CHAIR: S. Trzcielinski, Poland

8:00-10:00
RAPHAEL

- **Information technologies in concurrent engineering in selected knowledge based economy companies in Poland – Some results of research**
J. Kalkowska and H. Wlodarkiewicz-Klimek, Poland
- **Some metaphors of agile enterprise**
S. Trzcielinski, Poland
- **Shaping the strategy of knowledge based economy of Polish enterprises**
H. Wlodarkiewicz-Klimek and J. Kalkowska, Poland
- **Organizational structure designing and knowledge based economy. The research framework for the Polish enterprises**
E. Pawlowski, Poland
- **Ambient intelligence in the classroom: An augmented school desk**
M. Antona, G. Margetis, S. Ntoa, A. Leonidis, M. Korozi, G. Paparoulis and C. Stephanidis, Greece

SESSION 92: Methodologies and Applications

CHAIR: V. Duffy, USA

8:00-10:00
MICHELANGELO

- **A pharmacy perspective on human factors in healthcare**
S. Abel and P. Intrevado, USA
- **Human cognition for safer design in health care**
V. Patel, USA
- **A review of web-based dietary interventions from the HF/E perspective**
I. Hur, B. C. Kwon and J. S. Yi, USA
- **Medication safety**
P. Intrevado and S. Abel, USA
- **HFMEA™ of a radiotherapy information system – Challenges and recommendations for future studies**
L. Chadwick and E. Fallon, Ireland
- **Management of work site health promotion: A success story**
B. Zimolong and G. Elke, Germany
- **Instilling an organizational climate for health: Does top-management make the difference?**
J. Gurt and C. Schwennen, Germany

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10:00 - 10:30 Refreshments will be provided in the Exhibits area

SESSION 93: Cross Cultural Decision Making: Training

CO-CHAIRS: J. Johnston and D. Fautua, USA

THEATER

10:30 - 12:30

- **Training tactical decision making under stress in cross-cultural environments**
D. Kobus and G. Williams, USA
- **Translating science into practice: Developing a decision making training tool**
E. Lazzara, E. Salas, D. Metcalf, C. Graffeo, S. Weaver, K. Heyne and W. Kramer, USA
- **Using behavioral science principles to train small unit decision making**
V. A. Spiker and J. H. Johnston, USA
- **Training decision making for small units in complex cultural contexts**
W. Ross, J. Phillips and C. Lethin, USA
- **Authoring by cultural demonstration**
W. Stacy, J. Cohn, K. Sullivan and D. Miller, USA
- **Implications of physiological measures of stress for training cross-cultural decision making skills**
E. Palmer and D. Kobus, USA
- **FITE - Team training for cross-cultural decision making**
J. Wilkinson, D. Holness and W. Gieseey, USA

SESSION 94: Cognitive Ergonomics II

CO-CHAIRS: B. Goldberg, USA, and N. Stanton, UK

SANDRINGHAM

10:30 - 12:30

- **A practitioner's guide to personalized instruction: Macro-adaptive approaches for use with instructional technologies**
B. Goldberg, S. Schatz and D. Nicholson, USA
- **Relation between kawaii feeling and biological signals**
M. Ohkura, S. Goto, A. Higo and T. Aoto, Japan
- **What is a scenario? Operationalizing training scenarios for automatic generation**
G. Martin, S. Schatz, C. Hughes and D. Nicholson, USA
- **Through the looking glass: Reflecting upon the acquisition of expertise**
R. McLroy, N. Stanton and B. Remington, UK
- **Using mobile information sources to increase productivity and quality**
P. Thorvald, Sweden, A. Brolin, Sweden, D. Högborg, Sweden, and K. Case, UK
- **Effect of operator experience and automation strategies on autonomous aerial vehicle tasks performance**
C. Reynolds, D. Liu and S. Doherty, USA
- **Decision support for option awareness in complex emergency scenarios**
M. Pfaff, J. Drury, G. Klein and L. More, USA

SESSION 95: Ergonomics Roadmaps for Work and Products Design

CO-CHAIRS: K. Kogi and S. Horino, Japan

WINDSOR

10:30 - 12:30

- **Human performance technology and working reliability**
O. Burov, V. Kamyshin and O. Burova, Ukraine
- **Ergonomic harmonization of universal mobility design in urban environment**
S. Horino and K. Kogi, Japan
- **Ergonomics' contributions to a company's innovation strategy**
J. Dul, The Netherlands
- **Future directions in ergonomics research and applications in China**
W. Sheng, P. R. China
- **Cooperate social responsibility and ergonomics roadmaps**
K. S. Lee, Korea
- **Roles of ergonomist in a changing world**
A. Imada, USA

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SESSION 96: Panel: Helping the User Fail

CHAIR: M. Hancock, USA

BALMORAL
10:30 - 12:30

Panel Participants: M. Hancock, USA, K. Wood, USA, M. Rowthorn, New Zealand, A. Abouzahr, USA, B. Badger, USA, R. Greveson, UK, M. Kinkey, USA, K. Koudijs, The Netherlands, R. Myers, USA, C. A. Sturt, UK, A. Woods, UK, and S. Wheeler, Canada

- **Helping the user fail: Ergonomic modalities and distraction**
M. Hancock, K. Wood, M. Rowthorn, B. Badger, A. Abouzahr, A. Woods, C.-A. Sturt, K. Koudijs, M. Kinkey, R. Greveson, R. Myers, S. Wheeler and W. Brasher

SESSION 97: Ergonomics Modeling and Usability Evaluation II

CO-CHAIRS: J. Bombolowsky, Germany, and C. Tambascia, Brazil

CHOPIN BALLROOM
10:30 - 12:30

- **Human interaction data acquisition software for virtual reality: A user-Methodology for tests execution in usability laboratory considering cross-platform devices**
C. Tambascia and R. Duarte, Brazil
- **Ergonomic evaluation of Brazilian interfaces of mobile banking sites developed for iPhone**
V. Kupczik and S. Padovani, Brazil
- **Beyond usability: Ordering e-service quality factors**
S. Prom Tep and A. Dufresne, Canada
- **A curriculum for usability professionals (and why we need one)**
R. Bias, USA
- **Usability of integrated display groupware in collaborative work**
T. Y. Lim, H. Khalid and A. Yeo, Malaysia
- **Efficient and effective use of video material in the usability evaluation process: A case study from SAP Business By Design**
J. Bombolowsky, Germany
- **Study on judgment of visual similarity of lumber**
N. Teshima, H. Takasuna and T. Mikami, Japan

SESSION 98: Occupational Safety and Health Requirements in the European Union

CHAIR: D. Koradecka, Poland

TRADE
10:30 - 12:30

- **National OSH programme - The Polish experience**
D. Koradecka, Poland
- **Tools of occupational biomechanics in application to reduction of MSDs**
D. Roman-Liu, Poland
- **Psychosocial aspects of work**
D. Żołnierczyk – Zreda, Poland
- **Impulse noise**
J. Żera, Poland
- **Optical radiation (visible, ultraviolet and infrared) at the workplaces**
A. Wolska, Poland
- **Non-ionising radiation hazards at workplace in healthcare and possible preventive solutions**
J. Karpowicz and A. Wolska, Poland
- **Up-to-date personal protective equipment**
K. Majchrzycka, Poland

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SESSION 99: HCI in the Energy Industry

CO-CHAIRS: C. Harvey and R. Koubek, USA

10:30 - 12:30 ESCORIAL

- **Development of user interface for STARtracker, a web-based open source application for tracking oil and gas methane emission reductions**
G. M. Knapp, USA
- **Human factors in oil refinery operation**
D. Strobhar, USA
- **Empirically evaluating and developing alarm rate standards for liquid pipeline control room operators**
G. D. Uhack, II and C. Harvey, USA
- **Design of a collaborative visualization facility for geoscience research**
C. White, USA
- **Case study of alarms rates in two pipeline companies vs. alarm rate standards**
C. Harvey, L. Michelli and G. Uhack, II, USA
- **Shortening the expertise curve: Identifying and developing cognitive skills in board operators**
D. Harris-Thompson, D. A. Malek and S. L. Wiggins, USA
- **Operator display issues: Examples from hydrocracking**
S. Underwood, J. Shinkle and J. Gallimore, USA

SESSION 100: DHM for Product and Equipment Design

CHAIR: R. Bhatt, USA

10:30 - 12:30 ALHAMBRA

- **Controls-based motion prediction in the presence of external forces**
K. Sheth, F. Gousous, R. Bhatt, S. Dasgupta and K. Abdel-Malek, USA
- **Simulating equipment interaction with predictive dynamics**
R. Bhatt, USA
- **The virtual profiler: Capturing profiling expertise for behavioral modeling**
M. Weber and W. Reynolds, USA
- **Enhancing situation awareness with visual aids on cognitively-inspired agent systems**
H. -W. Kim, S. Oh, D. Minoira, M. McNeese, J. Yen, T. Hanratty, L. Strater, H. Cuevas and D. Colombo, USA
- **Ergonomics accident/near accident analysis of taxi by means of an image-recording-type drive recorder in relation to newly developed "transportation safety management"**
S. Horino, M. Midori and N. Kubo, Japan
- **New developments with collision avoidance for posture prediction**
R. Johnson, C. Fruehan, M. Schikore, T. Marler and K. Abdel-Malek, USA

SESSION 101: DHM Applications II

CHAIR: V. Duffy, USA

10:30 - 12:30 RAPHAEL

- **Modeling foot trajectories for heavy truck ingress simulation**
M. Reed, S. Ebert and S. Hoffman, USA
- **Biomechanical model of joint reaction forces and moments during human movement**
J. Kim, Hong Kong
- **Optimization-based collision avoidance using spheres, finite cylinders and finite planes**
M. Hariri, R. Bhatt, J. Arora and K. Abdel-Malek, USA
- **Experiments under water: Preliminary findings on individual neutral postures**
T. Dirlich, Germany
- **The analysis of human capabilities through human capital assessment for covert, clandestine and denied organizations**
M. Weber and W. Reynolds, USA
- **Trust and reliance in HSCB models**
M. Farry, J. Pfautz, E. Carlson and D. Koelle, USA

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Tuesday, July 20, 2010

SSESSION 102: Human Interface & Healthcare IT

CHAIR: J. Jacko, USA

MICHELANGELO

10:30 - 12:30

- **A new model-based approach for the user interface design of medical systems and devices**
A. Janß, W. Lauer, F. Chuembou and K. Radermacher, Germany
- **Enabling pre-hospital documentation via spoken language understanding on the modern battlefield**
L. Anthony, K. Sharma, S. Regli, K. Stibler, P. Tremoulet and R. Gerhardt, USA
- **Mobile based personalized learning for people with learning disabilities**
S. Zare, H. Schelhowe and M. Lund, Germany
- **A novel input method for trepidant users of telemedical services**
A. Mertens, N. Jochems, C. M. Schlick, D. Dunnebacke and J. H. Dornberg, Germany
- **Using goal directed task analysis to identify situation awareness requirements of advanced paramedics**
H. A. Hamid and P. Waterson, UK
- **Effects of training program on interface task performance for older adults**
W. -C. Tsai and C. -F. Lee, Taiwan
- **Integrating ergonomics in an environment of care: Application of the NIOSH model ergonomic program in a healthcare setting**
M. Halpern, USA

SESSION 103: IEA TC on Digital Human Modelling Committee

(by invitation only)

10:30 - 12:30 GODFREY 2

SESSION 104: Hybrid & Multi-Model Computational Techniques

CO-CHAIRS: P. Wiegand and D. Barber, USA

13:30 - 15:30 THEATER

- **Multi-perspective, multi-future modeling and model analysis**
H. Van Dyke Parunak and S. A. Brueckner, USA
- **Cross-cultural decision making training using behavioral game-theoretic framework**
A. Madni, A. Moini and C. Madni, USA
- **Capturing culture and effects variables using structured argumentation**
K. Murray, J. Lowrance, K. Sharpe, D. Williams, K. Gremban, K. Holloman and C. Speed, USA
- **Evaluating human, social, cultural and behavioral (HSCB) models for operational use**
A. Russell, M. Clark, R. La Valley, W. Hardy and I. Zartman, USA
- **Applying epidemiological modeling to idea spread**
W. Salter and R. McCormack, USA
- **Building cross cultural trust and change: How do I obtain and implement local knowledge?**
T. Tetrault and J. Godfrey, USA

SESSION 105: Cognitive Ergonomics III

CO-CHAIRS: M. McNeese and G. Song, USA

SANDRINGHAM

13:30 - 15:30

- **An approach of classifying categorical level of expert of inspection panel of inspection panel by sensoring Yes-No Test**
M. Nakagawa, H. Nakayasu and T. Miyoshi, Japan
- **A study of how users customize their mobile phones**
W. -J. Chen and L. -C. Chen, Taiwan
- **A cognitive and holistic approach to developing metrics for decision support in command and control**
D. Lafond, F. Vachon, R. Rousseau and S. Tremblay, Canada
- **A cognitive systems engineering approach to support municipal police cognition**
E. Glantz and M. McNeese, USA
- **A proposal of fall risk evaluation method on patient's characteristics**
S. Fukaya and Y. Okada, Japan
- **Establishing trust in decision-aiding: The role of a visualization of agent decision-space in operator engagement with reduced cognitive load**
D. Minoira, S. Oh, H.-W. Kim, M. McNeese, J. Yen, T. Hanratty, L. Strater, H. Cueva and D. Colombo, USA

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SESSION 106: Emerging Issues in the Study of Work Teams

CO-CHAIRS C. Clegg and H. P. N. Hughes, UK

13:30 - 15:30 WINDSOR

- **Current and emerging issues in team working**
S. M. Fiore, USA
- **An agent-based modeling approach to simulating team working**
M. A. Robinson, H. P. H. Hughes, R. M. Crowder, Y. W. Sim, UK
- **Organizational network analysis as a tool for exploring 21st century work teams**
H. P. N. Hughes, C. W. Clegg and D. J. Leach, UK
- **Team empowerment, production uncertainty, and workplace injuries**
N. Turner, Canada, S. K. Parker, UK, H. M. Williams, UK and G. Grote, Switzerland
- **Adaptive coordination and shared leadership in high-risk teams: A framework for future research**
G. Grote and M. Kolbe, Switzerland
- **Using cognitive work analysis models to populate human views modaf**
- **- A method for sociotechnical system design**
N. Stanton, R. McIlroy and A. Bruseberg, UK
- **Interactive Session**
C. Clegg, UK

SESSION 107: Inclusive Design Symposium

CHAIR: T. Smith-Jackson, USA

13:30 - 15:30 BALMORAL

- **Designing across cultures: The development of a culturally sensitive safety training program**
S Artis, T. Smith-Jackson and B. Kleiner, USA
- **Ethnicity, aging, and the usability of blood glucose meters**
S. Miller, A. Nolden, T. Smith-Jackson and K. Roberto, USA
- **Analyzing the behavior of users with visual impairments in a haptic learning application**
S. Johnson, T. Yamaguchi, Y. Li, H. N. Kim and C. S. Nam, USA
- **Inclusive academic practices in an undergraduate engineering research experience**
T. Smith-Jackson, T. Bose, K. Thamvichai and C. Deitrich, USA
- **The anthropometric difference between Curacao and the Netherlands/USA with regard to table height**
M. G. Lancelot and G. J. Smith, Netherlands Antilles
- **Application of the critical incident technique to evaluate a haptic science learning system**
K. Oh, S. Anand, H. N. Kim, N. Mi, H. Kleiner, T. Yamaguchi and T. L. Smith-Jackson, USA
- **Website usability design principles for the elderly**
R. Jones, M. Mossey and M. Endsley, USA
- **Embodied cognition and inclusive design: Using gestures to elicit user requirements for interactive systems**
Y. Ryu, T. Smith-Jackson, K. Carroll, S.-J. Kim and M. Suh, USA

SESSION 108: Systems Safety II

CHAIR: H. Nakayasu, Japan

13:30 - 15:30 CHOPIN BALLROOM

- **Effects of cell phone conversations on driving performance in Japan**
M. K. Park, T. Machida, K. Yamanaka and M. Kawakami, Japan
- **On quantification method of step visibility: Basic investigation on influence of observation conditions**
Y. Kang and T. Mikami, Japan
- **OHSMS based on ergonomics and the BBS**
S. Marino, M. Donisi and M. Testasecca, Italy
- **Evacuation flow analysis for aircraft accident with panic passenger by autonomous agent and multi-agent simulation**
T. Miyoshi, H. Nakayasu, Y. Ueno and M. Nakagawa, Japan
- **Human systems integration risk management at the U. S. Department of Homeland Security**
D. Wilson, T. Malone, L. Avery and J. Lockett-Reynolds, USA
- **Voluntary guiding principles for the secure handling of nanomaterials**
W. Greaves-Holmes, USA

SESSION 109: Ergonomic Design of Future Production Systems

CO-CHAIRS: C. Schlick and B. Odenthal, Germany

13:30 - 15:30 TRADE

- **Cognitive engineering for self-optimizing assembly systems**
M. Mayer, B. Odenthal, M. Faber, W. Kabuß, N. Jochems and C. Schlick, Germany
- **Cognitive engineering for human-robot interaction: The effect of subassemblies on assembly strategies**
B. Odenthal, M. Mayer, N. Jochems, and C. M. Schlick, Germany
- **Design of a knowledge module embedded in a framework for a cognitive system using the example of assembly tasks**
E. Hauck, D. Ewert, D. Schiberg and S. Jeschke, Germany
- **User-centered and adaptive support systems for production systems**
J. Dzaack, B. Höge and M. Rötting, Germany
- **Total ergonomics management: A modular concept for the integration of ergonomics into production systems**
M. Bierwirth, R. Bruder and K. Schaub, Germany
- **A procedure approach for the culture-adequate implementation of production systems**
R. Hensel and B. Spanner-Ulmer, Germany
- **The impact of the human factor on productivity in advanced production systems**
M. Göbel and S. Zschernack, South Africa

SESSION 110: Neuroergonomic Applications I

CHAIR: H. Tamura, Japan

13:30 - 15:30 ESCORIAL

- **Characteristic changes in oxygenated hemoglobin levels measured by near-infrared spectroscopy (NIRS) during "Aha" experiences**
K. Teranishi and H. Hagiwara, Japan
- **Event related analysis of NIRS quick components supporting button selection tasks**
M. Fuchigami, H. Tamura and A. Okada, Japan
- **Event related peak and hole analysis of NIRS quick components to hand up/down activities**
H. Tamura, M. Fuchigami and A. Okada, Japan
- **Neuroethics: Protecting the private brain**
J. Keebler, S. Osofsky, G. Taylor, L. Sciarini and F. Jentsch, USA
- **Understanding brain arousal and sleep quality using a neuroergonomic smart phone application**
D. Gartenberg and R. Parasuraman, USA
- **From subjective questionnaires to saccadic peak velocity: A neuroergonomics index for online assessment of mental workload**
L. L. Di Stasi, M. Marchitto, A. Antoli, E. Rodriguez and J. J. Cañas, Spain
- **Brain power: Implementing powerful neurally-inspired mechanisms in computational models of complex tasks**
A. Santamaria, USA

SESSION 111: Cognitive and Organizational Aspects

CHAIR: G. Boy, USA

13:30 - 15:30 ALHAMBRA

- **Modelling decision making in the Armed Forces**
L. Rafferty, N. Stanton and G. Walker, UK
- **Exploring learning and training abilities using assistive technologies**
G. Boy, D. Lecoutre, L. Mouluquet and A. Raj, USA
- **The virtual camera concept: A third person view**
G. Boy, R. Mazzone and M. Conroy, USA
- **Shaping usability engineering methods to fit the IT applications development process**
D. Dunkle, USA
- **Interactive-Consumer Design & Evaluation (I-CODE): A new method to investigate cognitive structures of user's on automotive functionalities**
K. Bengler, Germany, J. Coughlin, USA, B. Reimer, USA, and B. Niedermaier, Germany
- **Driver's natural anticipation horizon in deceleration situations**
D. Popiv, K. Bengler and M. Rakic, Germany

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SESSION 112: Human and Organizational Aspects II

CO-CHAIRS: F. Calisir, Turkey, and V. G. Duffy, USA

RAPHAEL

13:30 - 15:30

- **Speech intelligibility and visual performance while wearing powered air purifying respirators (PAPRs)**
S. Hah, T. Yuditsky, K. A. Schulz, H. Dorsey, A. R. Deshmukh and J. Sharra, USA
- **Increasing contextual services: From tagging-context to tagging-awareness**
S. N. Díaz, R. H. Lucas, G. C. Juárez and J. B. Rodríguez, Mexico
- **Man-machine-interaction in complex intraoperative orthopedic work systems**
W. Lauer, A. Janss, B. Ibach and K. Radermacher, Germany
- **Methodology for a combined evaluation of cognitive and physical ergonomic aspects of medical equipment**
L. -O. Bligård and A. -L. Osvalder, Sweden
- **A human factors evaluation of flexible endoscope reprocessing**
Q. Wu, R. Branaghan, E. Hildebrand and D. Epstein, USA
- **The measure of success: Quantifying the acute effects of whole body vibration on hamstring flexibility**
S. Nurudeen, D. Shin, D. Herring and K. Heinrichs, USA

SESSION 113: Engineering Healthcare Systems

CO-CHAIRS: W. Friesdorf and B. Wears, Germany

MICHELANGELO

13:30 - 15:30

- **Medicoergonomics - Industrial ergonomics adapted to clinical requirements**
W. Friesdorf, D. Fuchs and B. Podtschaske, Germany
- **Patient safety in education (Emergency Dept., OR, ICU)**
D. Fuchs, B. Podtschaske and W. Friesdorf, Germany
- **Methods of clinical process analysis - Systematically replacing a banal rationing by a balanced rationalization**
I. Marsolek, Germany
- **Clinical systems re-engineering - Lessons learned**
B. Wears, Germany
- **Implementation of hospital information systems - Lessons learned**
T. Fairbanks, USA
- **An artificial intelligent approach for evaluation of teamwork versus health, safety, environment and ergonomics (HSEE)**
A. Azadeh, M. Rouzbahman and M. Saberi, Iran
- **Patient satisfaction in Emergency Departments: First results of a survey**
B. Podtschaske, U. Schmutzsch, A. Volkmer, D. Fuchs and W. Friesdorf, Germany
- **Health 2.0: User centering, patient centering, and human centering**
S. Deal and A. P. Jonas, USA

15:30 - 16:00 Refreshments will be provided in the Exhibits area

SESSION 114: Sense Making in Other Cultures: Dynamics of Interaction

CHAIR: T. van Vliet, The Netherlands

THEATER

16:00 - 18:00

- **Interpersonal influence in cross-cultural interactions**
D. Van Hemert, L. De Koning and H. Van den Berg, The Netherlands
- **Multi-culture interaction design**
J. A. Sheikh, B. Fields and E. Duncker, UK
- **Language understanding technology for cross-cultural decision making**
M. Freedman, A. Baron and R. Weischedel, USA
- **Generic message propagation simulator: The role of cultural, geographic and demographic factors**
T. van Vliet, E. Huibregtse and D. van Hemert, The Netherlands
- **Identifying similarities and differences of pictorial symbol design and interpretation of two culturally different groups**
Y. S. Lee, USA
- **Using Conscript™ to train cross-cultural decision-making in a serious game**
M. Zielke, F. Dufour, B. Friedman, D. Hurd, E. Jennings and M. Kaiser, USA

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SESSION 115: 1st International Symposium in Ergonomics in Design: Environment and Information

CO-CHAIRS: M. Soares, Brazil and F. Rebelo, Portugal

16:00 - 18:00 SANDRINGHAM

- **Usability evaluation of different door handles**
L. C. Paschoarelli, Brazil, and R. Santos, Portugal
- **Ergonomic design of school furniture: Challenges for the Portuguese schools**
I. Castellucci, M. A. Gonçalves and P. M. Arezes, Brazil
- **The uses and manufacture of wheelchairs – An emotional approach**
P. Costa and F. M. Moreira da Silva, Portugal
- **Light, colour and surface as ergonomics aspects in space recognition and urban orientation: Azulejo's (glazed tiles) as paradigm**
C. Lobo, Portugal
- **Accessibility and inclusion: The case study of the Faculty of Architecture of Lisbon**
F. M. Da Silva, Portugal
- **Signs systems for touristic information**
J. Neves and F. M. da Silva, Brazil
- **The importance of sustainability in the communication design practice**
M. Cadarso and F. M. da Silva, Portugal

SESSION 116: Evolute, Human Competence Management

CHAIR: J. Kantola, Korea

16:00 - 18:00 WINDSOR

- **Fitting safety culture in the organizational culture. A creative tension case study**
N. Mancebo, Spain, A. Bikfalvi, Spain, and H. Vanharanta, Finland
- **Proactive vision for the safety culture in a Finnish chemical plant**
P. Porkka, M. Salo-Pihlajamäki and H. Vanharanta, Finland
- **Competence profile of top-level controllers**
T. Salminen, M. Kallio, H. Vanharanta and B. Back, Finland
- **Globalizing project managers' creative tension, an overview**
A. Bikfalvi, Spain, P. Porkka, Finland, H. Aramo-Immonen, Finland, N. Mancebo, Spain, J. Kantola, Korea, and H. Vanharanta, Finland

SESSION 117: Ergonomics for the People with Disabilities and Occupational Safety

CHAIR: J. Lewandowski, Poland

16:00 - 18:00 BALMORAL

- **Ergonomic student workstation as a condition for the proper shaping of body posture**
J. Lecewicz-Bartoszewska, A. Polak-Sopinska and Z. Wisniewski, Poland
- **Ergonomic adjustment of a selected workstation to the function of occupational rehabilitation**
A. Polak-Sopinska and Z. Winiewski, Poland
- **Dynamic analysis of opportunities and needs of persons with disabilities in the use of application interfaces**
Z. Wisniewski, A. Polak – Sopinska and J. Lecewicz – Bartoszewska, Poland
- **Ergonomically streamlining the process of implementing changes based on the behavioral approach**
Z. Wisniewski, A. Polak–Sopinska and J. Lewandowski, Poland
- **Diagnosis of consciousness in the area of occupational hygiene and safety in Polish organizations**
K. Boczkowska and K. Niziołek, Poland
- **Determinants of implementing systems of occupational hygiene and safety management in Polish organizations**
K. Boczkowska and K. Niziołek, Poland

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SESSION 118: Systems Safety III

CO-CHAIRS: K. Fischer, Switzerland, and Z. Li, P. R. China

16:00 - 18:00 CHOPIN BALLROOM

- **Situation awareness training in train driving**
K. Fischer, Switzerland
- **A proposal of a training program of risk managers applying incident reports in medical organizations**
T. Fukuda and Y. Okada, Japan
- **Ergonomics study on the visual environment at urban uncontrolled intersections based on visibility simulation approach applying 3-dimensional computer graphics software**
M. Mori, S. Horino and N. Kubo, Japan
- **A decision support system for unusual behavior detection in nuclear power plants**
Y. -H. Wang, P.-C. Wang, S.-L. Hwang and R. H. Hou, Taiwan
- **Effects of flexible wooden board installation and work experience on Chinese construction workers hired from farms**
Z. Li and C. -C. Chang, P. R. China
- **Agricultural accidents scenario in Rajasthan State of India**
A. K. Mehta, H. Shrimali and S. S. Meena, India

SESSION 119: Neuroergonomic Applications II

CHAIR: T. Marek, Poland

16:00 - 18:00 TRADE

- **A neuroergonomic perspective on human-automation etiquette and trust**
E. De Visser and R. Parasuraman, USA
- **Methods from neuroscience for measuring user experience in work environments**
D. Spath, M. Peissner and S. Sproll, Germany
- **Activity of alerting, orienting and executive neuronal network due to sustained attention task - Diurnal fMRI study**
M. Fafrowicz, T. Marek, K. Golonka, J. Mojsa-Kaja, H. Ogińska, K. Tucholska, E. Beldzik, A. Domagalik and A. Urbanik, Poland
- **ESP²: A platform for experimental design in cognitive ergonomics**
R. Sottile, L. Y. Di Marco and L. Chiari, Italy
- **NeuroGaming: Merging cognitive neuroscience & virtual simulation in an interactive training platform**
C. Berka, N. Pojman, J. Trejo, J. Coyne, A. Cole, C. Fidopiastis and D. Nicholson, USA

SESSION 120: Human Factors in Manufacturing IV

CO-CHAIRS: M. Keil, Germany, and A. Mehta, India

16:00 - 18:00 ESCORIAL

- **Standardization as a tool to promote continuous improvement - Case study of an automobilistic factory**
L. Wiemes, G. Balbinotti, G. Coutinho and L. Vieira, Brazil
- **Conception of a task analysis- and screening-method for identifying age-critical fields of activity on the basis of the Chemnitz Age Model**
M. Keil and B. Spanner-Ulmer, Germany
- **Analysis of lower limb measurements in running progress for high-performance slacks design**
Y. J. Wang, P. Y. Mok, Y. Li and Y. -L. Kwok, Hong Kong
- **The specification and evaluation of personalized footwear for additive manufacturing**
A. Salles and D. Gyi, UK
- **Ergonomic evaluation of hand chaff cutter for dry maize fodder**
A. Mehta, India
- **Ergonomic design of the viewing angle in a computer numerically controlled-electro discharge machine environment**
I. Khan and M. Asghar, India

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SESSION 121: E-healthcare: Opportunities and Pitfalls

CO-CHAIRS: G. Yucel, Turkey, and B. Hoege, German

16:00 - 18:00 ALHAMBRA

- **Integrated analysis of communication in hierarchical task models focused on medical critical systems**
T. Mistrzyk, Germany
- **Effects of BCMA on clinicians' communication, coordination and cooperation**
G. Yucel, Turkey/USA, B. Hoege, Germany, and V. G. Duffy, USA
- **Group and organizational communication using the ED status board tentatively**
R. L. Wears, USA, J. Wreathall, R. J. Fairbanks, A. M. Bisantz, S. J. Perry and P. Pennathur, Italy
- **The relative importance of usability and functionality factors for E-health web sites**
F. Calisir, A. E. Bayraktaroglu, C. A. Gumussoy, and H. Topaloglu, Turkey
- **Factors affecting the acceptance of internet as a healthcare information source**
C. B. Cakir and R. V. Koc, Turkey

SESSION 122: Patient Safety Due to Usability

CO-CHAIRS: D. Buechel, Germany, and V. Duffy, USA

16:00 - 18:00 RAPHAEL

- **Patient safety? Usability? Experience in real clinical life**
U. Matern and D. Büchel, Germany
- **How to develop user-centered medical devices – The view from a US research university**
S. Hallbeck, USA
- **Sociotechnical model of inpatient nursing work system for understanding healthcare IT innovation diffusion**
R. Tian, USA, B. Lee, USA, J. Park, USA/Korea, and V. Duffy, USA
- **Standardized evaluation process of usability properties**
D. Büchel and U. Matern, Germany
- **Analysis of cross-professional communication in thoracic operating rooms**
C. Kramer, A. Parush, K. Momtahan and S. Brandigampola, Canada
- **Acquisition of skill sets and mental models over time**
T. Fincannon, S. Ososky, J. Keebler and F. Jentsch, USA

Interactive Poster Presentations

Grand Ballroom

All poster presentations will be displayed during the entire duration of Exhibits. The authors will be present to discuss their posters on July 18 and July 19 during the mid-morning (10:00 - 10:30) and mid-afternoon (15:30 - 16:00) breaks.

- **Effects of training intervention on reducing potential of developing musculoskeletal discomforts among assembling workers**
M. Mohseni and M. Motamedzade, Iran
- **Eye movement measure system and application in ergonomics**
W. Liu, P.R. China
- **Development of new types of ergonomic working seats**
J. Marek, P. Skrehot, S. Vikova, M. Rupova and I. Maclova, Czech Republic
- **The study of sizing system with 3D measurement data for preschool children in Central Taiwan**
Y. C. Lin and J. S. Chen, Taiwan
- **Analysis of ergodesign in the exporting furniture centers of Bento Gonçalves (RS) and Ubá (MG)**
F. Torres and A. P. Souza, Brazil
- **The study of human haptic perception for vehicle haptic seat development**
W. Chang, K. Lee, Y. Ji, J. Pyun and S. Kim, Korea
- **The real exposure to aerosols from the working atmosphere and its impact on health of workers**
M. Rupova, P. Skrehot and M. Rupova, Czech Republic
- **4th dimensional interactive design for dynamic environments**
M. Galli, Italy, F. McKimm, Ireland, H. Yanagihara, Belgium, and V. Cimolin, Italy
- **The legislative tools on the management of occupational electromagnetic hazards in practice**
J. Karpowicz, Poland
- **Creating a healthier lifestyle through advanced ergonomic design**
J. Lewinsein, USA
- **Differential effects of likelihood alarm technology, type of automation, and type of task on decision making**
E. Bustamante, USA
- **Using EMG to evaluate ergonomic problems among the hand of mouse operators**
P. -H. Lin, C.-W. Lu and S. -B. Su, Taiwan
- **Ergonomic hazards evaluation of the Louhsi ink-stone carvers**
G. -H. Kao, Taiwan
- **Ergonomics hazards evaluation of the visual inspection process in the light emitting diode industry**
C. -W. Liu and C. -L. Huang, Taiwan
- **The effect of work-rest schedules on asthenopia and muscle fatigue of computer mouse users**
Y. -L. Chen and C. -W. Lu, Taiwan
- **Prevalence of low back pain in long distance truck drivers of mountainous terrain**
M. Goon, S. Ghoshal, B. Chandrasekaran and B. C. Sharma, India
- **A study of the dynamic model in the analysis of whole body vibration in manufacturing environments**
A. Mohammadi, Malaysia
- **The cultural order of battle: Segmentation**
W. Reynolds, M. Weber, W. Wright, S. Santosa and J. Holden-Rhodes, USA
- **Breadth-depth triangulation for validation and verification of modeling and simulation of complex systems**
W. Reynolds, USA
- **The effectiveness of ergonomic intervention on working posture and equipments positioning among Turkish computer users with upper extremity work-related musculoskeletal disorders**
S. Esmaeilzadeh, E. Ozcan, H. Basat and H. Issever, Turkey

Interactive Poster Presentations

- **Applications of operations research in healthcare: an overview**
Z. Zhang, China
- **The epidemiology of work-related musculoskeletal disorders among Turkish computer users**
E. Ozcan, S. Esmailzadeh and H. Issever, Turkey
- **Investigation of the human error model, in example of the medicine staffs**
C. -W. Lu, B.-W. Chen and W. -J. Chang, Taiwan
- **Usability group management methods: How to create a cohesive, innovative and high-performing team**
L. Tudor, R. Ramarajan and H. Wang, USA
- **Automatic generation of graphical user interface using genetic algorithm**
T. Mori, T. Nonaka and T. Hase, Japan
- **Graphical user interface model based on human error using analytic hierarchy process**
S. Yamada, T. Nonaka and T. Hase, Japan
- **AV remote controller with an input device to recognize handwritten characters**
M. Yonezawa, T. Nonaka and T. Hase, Japan
- **AV remote controller using speech recognition**
S. Sugiyama, T. Nonaka and T. Hase, Japan
- **User interface with bird's eye view function**
T. Nonaka, K. Oishi and T. Hase, Japan
- **Of age effects and the role of psychomotor abilities and practice when using interaction devices**
C. Sutter and M. Oehl, Germany
- **The measurement of grip-strength in automobiles: A new approach to detect driver's emotions**
F. Siebert, M. Oehl and H. -R. Pfister, Germany
- **Modeling effective and ineffective knowledge communication and learning discourses in CSCL with hidden Markov models**
T. Berwe, M. Oehl and H. -R. Pfister, Germany
- **Ergonomic considerations on the implementation of small-caliber trans-nasal gastroduodenoscopy**
K. Shinohara, Japan
- **Prospective memory in programmer multitasking: Programmers' vulnerability to habit intrusion errors**
S. Premijit and A. Khan, India
- **Localization of head-mounted vibrotactile transducers**
M. Binseel, USA
- **Design parameters for a helmet-mounted tactile display**
K. Myles and J. Kalb, USA
- **Anthropometrics and ergonomics assessment in the IMMA manikin**
E. Svensson, E. Bertilsson, D. Högberg and L. Hanson, Sweden
- **Interaction between simulated hearing loss and navigation task performance**
R. Weatherless, P. Fedele and M. Grantham, USA
- **Ergonomic design of NOTES robot system master structure**
J. M. Jeong, K. B. Lim, S. H. Park and Y. -S. Yoon, Korea
- **Inter-organizational cooperation: Challenges for joint action**
R. Zinke, G. Hofinger and S. Strohschneider, Germany
- **The use of the virtual corset, triaxial accelerometer, to quantify humeral elevation angles and exposure in dental hygienists**
T. Amasay and A. Karduna, USA
- **Study on measurement of individual hazard perception for work safety**
A. Hirose, Japan
- **Translating human performance into system performance using the Improved Performance Research Integration Tool (IMPRINT)**
C. Samms, USA
- **Prototype electronic displays for improved visual interpretation of fetal heart rate variability**
L. Hall, D. Hannon, M. House, A. Wolfberg and G. Leisk, USA
- **Study on brightness sensitivity of colored LED lights in dense fog**
M. Takamatsu, Y. Nakashima, Y. Kidoh, Z. Ming and M. Oota, Japan

Interactive Poster Presentations

- **Study on binocular colour fusion limits - in retinal fovea**
Y. Nakashima, M. Takamatsu, H. Fujita, K. Sendai and K. Sawa, Japan
- **Study on color sensitivity of the elderly - In case of LED display**
Y. Hirano, Y. Nakashima, M. Takamatsu and T. Fujita, Japan
- **Study on color sensitivity of dichromatism for LED light**
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T. Fujita, Y. Nakashima and M. Takamatsu, Japan
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K. Lee, USA
- **More can be less: Selecting EEG features for an artificial neural network-based workload classification**
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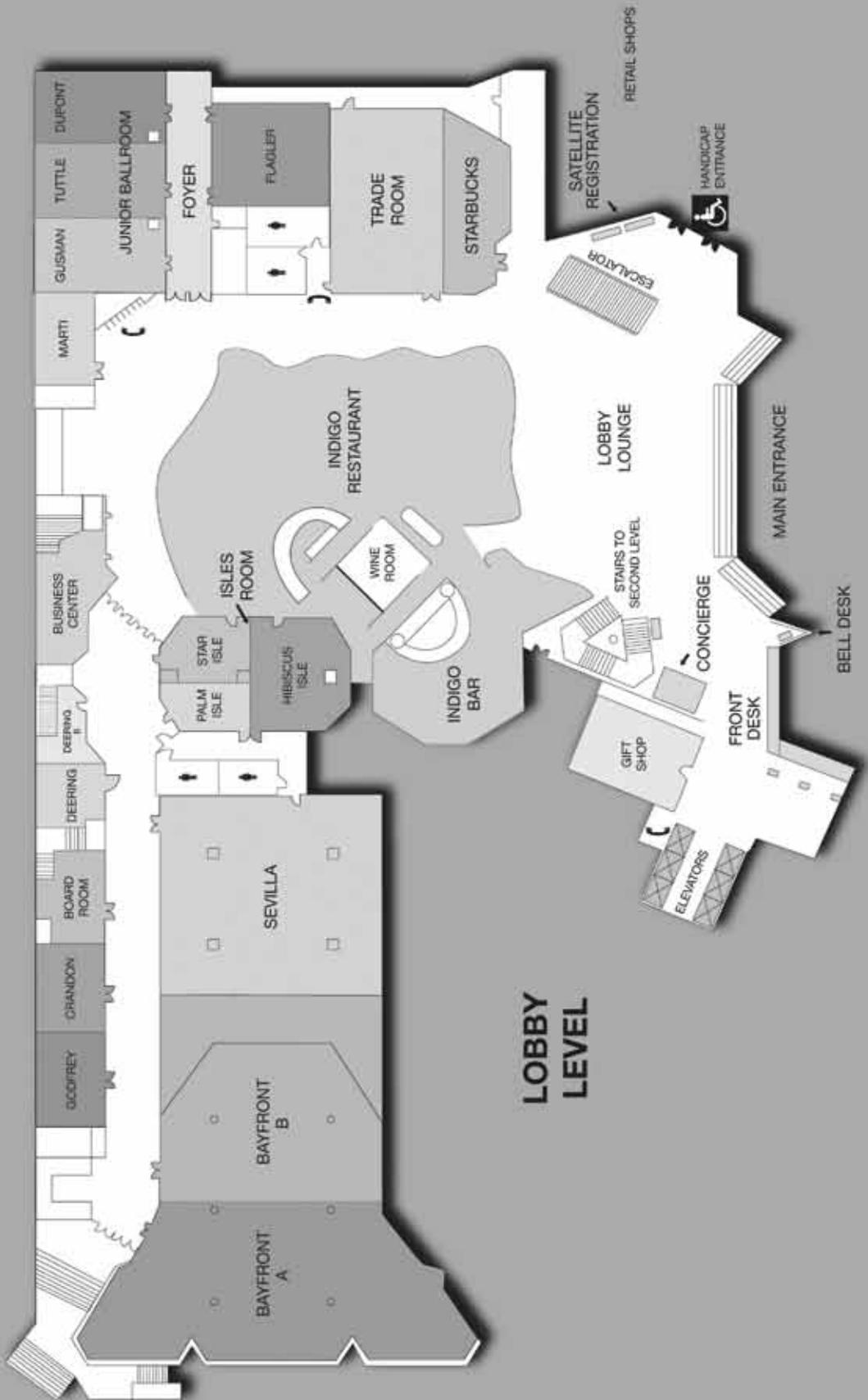
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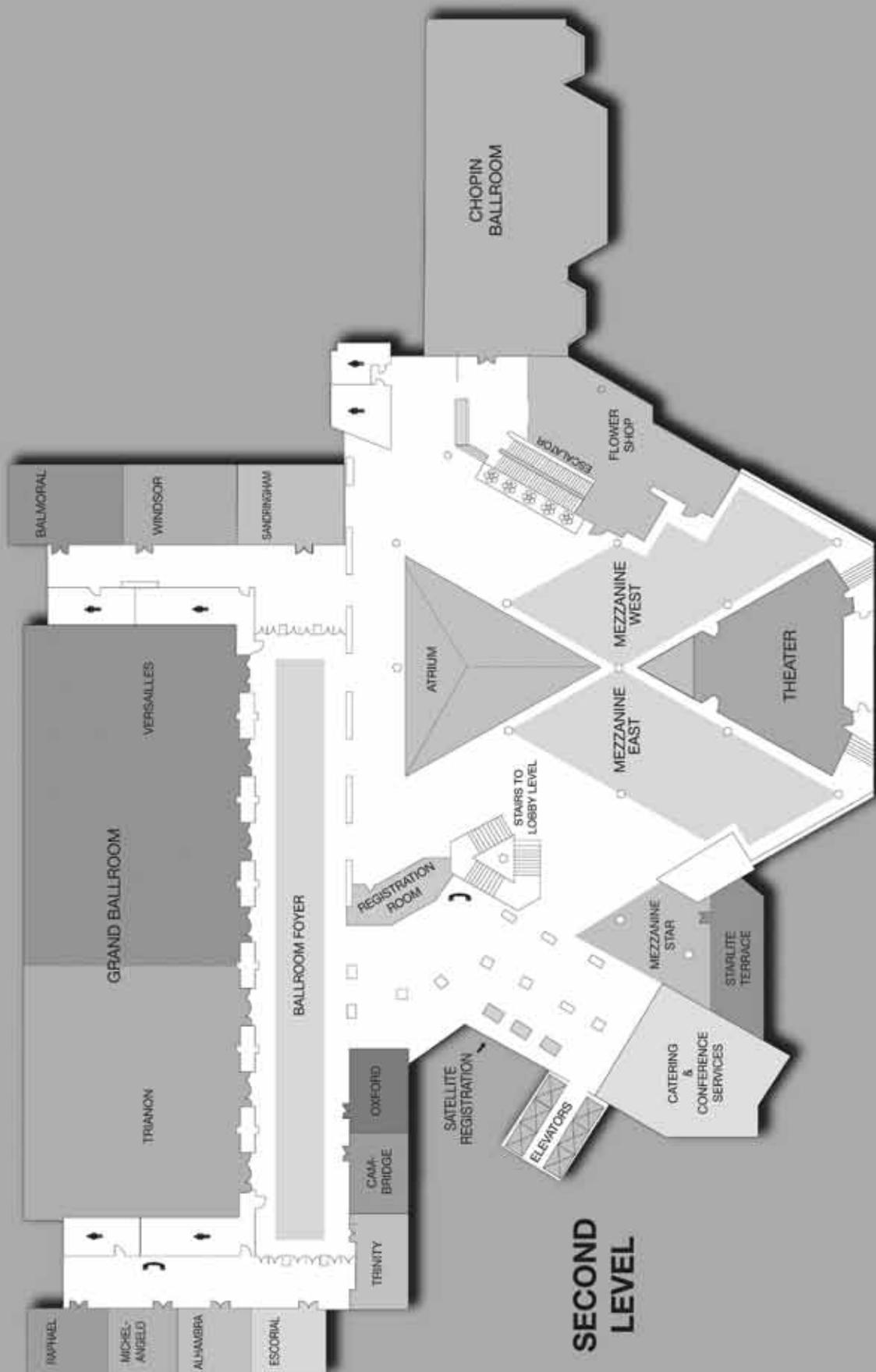
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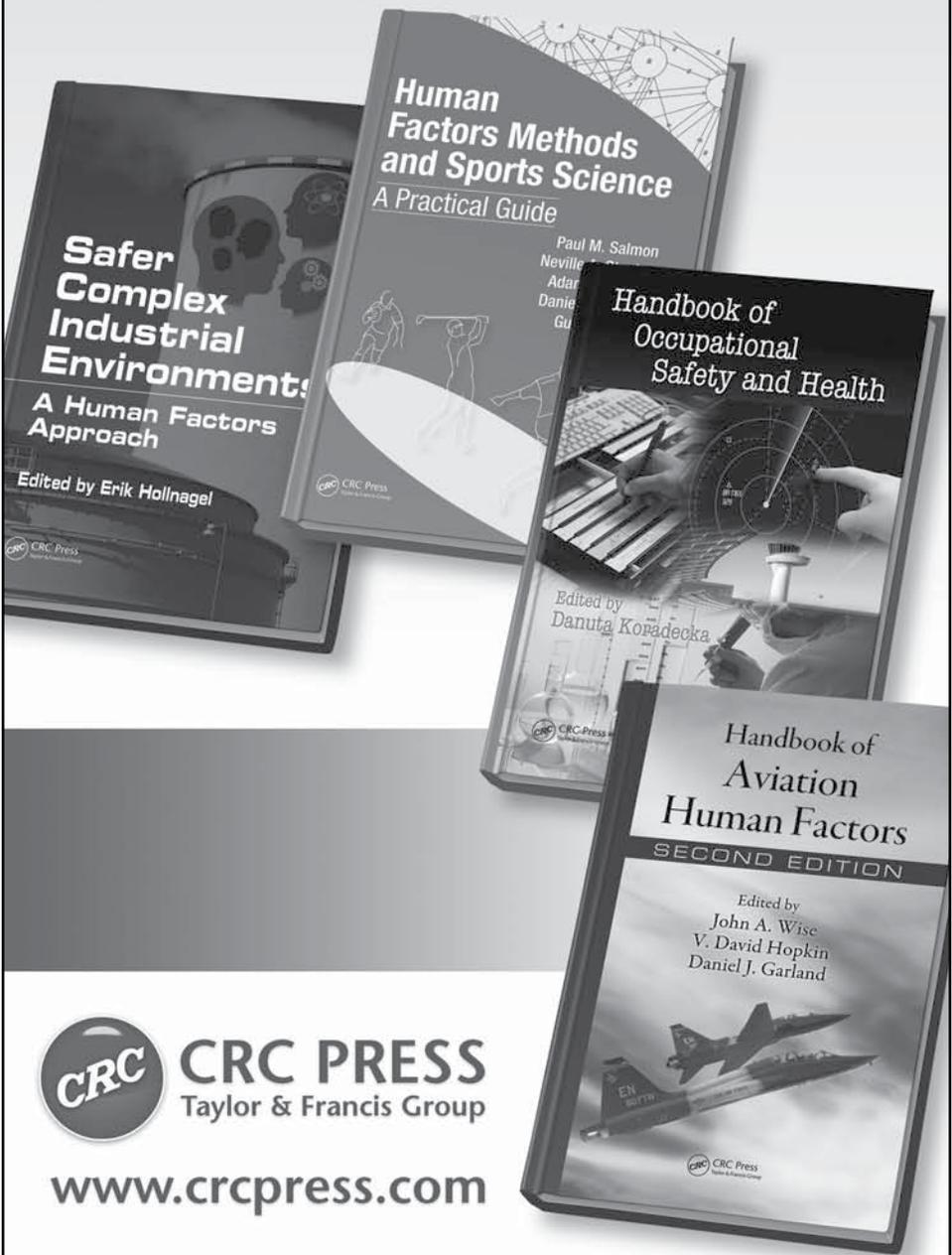
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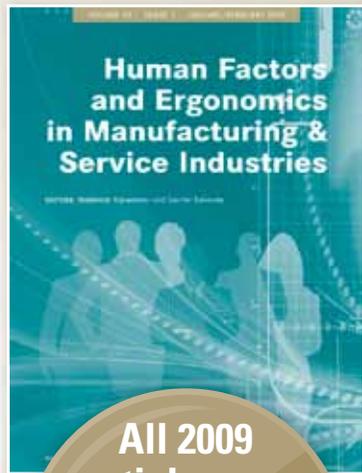
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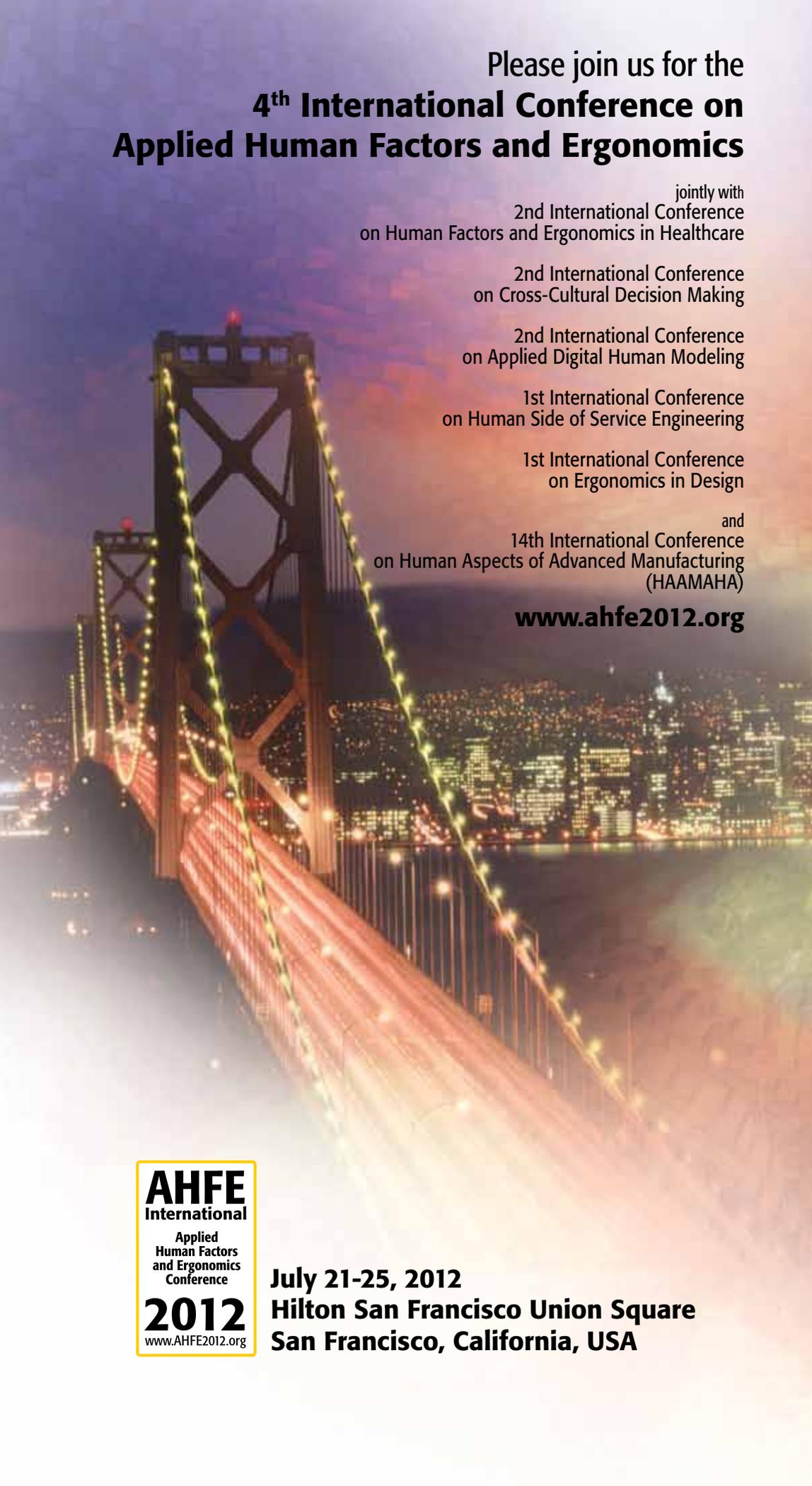
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