

TECHNICAL SESSIONS

October 17, 2007 (Wednesday)

Opening Ceremony

Vibhavadee Ballroom B

Wednesday, 08.45 – 09.00 hr

- Welcome Speech
*Suebsak Nanthavanij, Sirindhorn International Institute of Technology, Thailand
Conference Chairperson, President of the Ergonomics Society of Thailand (EST)*
- Opening Speech
*Masaharu Kumashiro, University of Occupational and Environmental Health, Japan
President, the Pan-Pacific Council on Occupational Ergonomics (PPCOE)*

Invited Talk

Vibhavadee Ballroom B

Wednesday, 09.00 – 10.00 hr

- Topic: Government Activities for Promoting Ergonomics to Thai Industries
*Sudthida Krungkrai Wong, National Institute for the Improvement of Working Conditions and The Environment, Thailand
President, The Southeast Asian Ergonomics Society (SEAES)*

Special Presentations

Vibhavadee Ballroom B

Wednesday, 10.30 – 12.00 hr

- Preparation of The 2008 Southeast Asian Ergonomics (SEAES) Conference, SEAES 2008
Naris Charoenporn, Thammasat University, Thailand
- Preparation of The 2009 International Ergonomics Association (IEA) Congress, IEA 2009
Sheng Wang, Peking University Health Science Center, China

Session WP1-A: Product Design (I)

Rangsit (A)

Wednesday, 13.30 – 15.00 hr

(Chair: *Farag Effeituri*)

- Evaluation of Automobile Seat Design to Optimize Comfort
Farag Effeituri (Libya) and William Luther (Canada)
- A Study of the Walking for Pregnant Women
Chinatsu Mizuno and Sakae Yamamoto (Japan)
- The Study on Exercise Effects by the Change of Elastics and Angle of the Insole
Chang-Min Lee, Yeon-Ju Oh, and Jin-Hoon Kim (Korea)
- A New Concept for Laparoscopic Instrument Design
H. M. Chien (Taiwan, UK), S. Ferguson (UK), and G. Dodds (UK)

Session WP1-B: Safety (I)

Horvang (B)

Wednesday, 13.30 – 15.00 hr

(Chair: *Klaus-Dieter Fröhner*)

- A Study of Ergonomic Industrial Robot in Klang Valley, Malaysia
R. Samin, H.M. Kimi, R.M. Yusuff, N. Ismail, and S.H. Tang (Malaysia)
- Grounding and Results of Person Oriented Online Monitored Particle-Size Sampling for Airborne Particles
Klaus-Dieter Fröhner and Ze Li (Germany)
- Developing a Method to Compare International Lists of Hazardous Substances
Klaus-Dieter Fröhner (Germany), Pranas Baltrenas (Lithuania), Saulius Vasarevicius (Lithuania), and Sabine Wohlwill (Germany)
- Effect of Organizational Culture on Employee Attitude Toward Safety Under Hazardous Situations In Case of Railway Organization
Amorn Amornsruang and Kazuo Nakamura (Japan)

Session WP1-D: Work-related Musculoskeletal Disorders (I) Kambhangbejra II (D)Wednesday, 13.30 – 15.00 hr (Chair: *Hardianto Iridiastadi*)

- Health Promotion Program in Preventing and Reducing Low Back Pain among Malaysian Bus Drivers
S.B.M Tamrin (Japan), K. Yokohama (Japan), J. Jalaludin (Malaysia), N. Jemoi (Malaysia), N. Aziz (Malaysia), A. Li Naing (Malaysia), and B.N. Rusli (Malaysia)
- Method of Quantitative Analysis of Occupational Low Back Pain in Manufacturing
Yoshiyuki Higuchi, Hiroyuki Izumi, Hidenori Togami, Masahiro Hashimoto, Akinori Sato, Hiroyuki Komada, and Masaharu Kumashiro (Japan)
- Effect of Home Based Exercise Program to Reduce Pain in Persons with Low Back
Nanthida Phathusat, Varin Binhosen, and Pongjan Yoophat (Thailand)
- Prevalence of Musculoskeletal Symptoms among Indonesian Workers: A Preliminary Study
Hardianto Iridiastadi (Indonesia)

Session WP1-E: Design for Accessibility and Usability (I) Kambhangbejra III (E)Wednesday, 13.30 – 15.00 hr (Chair: *Sakol Teeravarunyou*)

- Construction of Comprehension Performance Curve for Characterization of Icon Usability
Alan H.S. Chan and Annie W.Y. Ng (Hong Kong)
- Accessibility Design Guideline for the Elderly: A Case Study of TV Remote Control
T. Poonsak and S. Teeravarunyou (Thailand)
- Intelligent Coding Tool for Physical Interface
P. Chaivoraporn and S. Teeravarunyou (Thailand)
- Usability of a Roll-Up Style Menu on a Mobile Phone
Jaehyun Park, Sung H. Han, Youngseok Cho, Wonkyu Park, Hyunsuk Im, and Sang W. Hong (Korea)
- Fisheye View for Searching Photos on a Mobile Phone
Hyunsuk Im, Sung H. Han, Jaemin Chun, and Wonsup Lee (Korea)

Session WP2-A: Product Design (II) Rangsit (A)Wednesday, 15.30 – 17.00 hr (Chair: *Kamal Kothiyal*)

- Muscle Load and Discomfort in Counter Workstation Users
Kamal Kothiyal and Claire Folland (Australia)
- Design for Assembly Understanding to Improve Malaysian Office's Furniture Assembly Ergonomically
Mohd Shahrizal Dolah and Ahmad Rizal Abd. Rahman (Malaysia)
- Can We Do Away with Those Cumbersome Shoe Laces?
Shuping Xiong and Ravindra Goonetilleke (Hong Kong)
- The Effect of Input Device Type and Age on Numeric Entry Task
Donghun Lee, Dongjin Kim, Seokhee Na, Taebeum Ryu, and Min K. Chung

Session WP2-B: Safety (II) Horvang (B)Wednesday, 15.30 – 17.00 hr (Chair: *Jirachai Buddhakulsomsiri*)

- Optimizing Turnaround Maintenance Performance
Farag Effeituri and Salah Massoud Elemnifi (Libya)
- Framework for Implementing Data Mining Techniques in Industrial Safety Data
Jirachai Buddhakulsomsiri (Thailand)
- Design of an Adaptive Auditory Warning System for Adequate Audibility in Highly Fluctuating Noisy Environment
Patamaporn Sripadungtham, Parichart Sritanavut, Ratikorn Thearnranapramote, Tanasarn Thungpoonsub, and Suebsak Nanthavanij (Thailand)

Session WP2-D: Work-related Musculoskeletal Disorders (II) Kambhangbejra II (D)Wednesday, 15.30 – 17.00 hr (Chair: *W. Jalayondeja*)

- Study on Relationships between Work-related Musculoskeletal Disorders, Job Stress and Sick Leave of Automobile Assembly Workers
Kwan S. Lee and Young J. Chun (Korea)
- "Wise Technique" Implementation for Reducing Work-related Musculoskeletal Disorders in a Cardboard Box Factory
P. Klangsinsin, K. Mekhora, and W. Jalayondeja (Thailand)
- Musculoskeletal Problems among Surgical Technicians of Shiraz City Hospitals
Mehrnoosh Movahed (Japan), Alireza Choobineh (Iran), Sayed Hamidreza Tabatabaie (Iran), and Masaharu Kumashiro (Japan)

Session WP2-E: Design for Accessibility and Usability (II)**Kambhangbejra III (E)**

Wednesday, 15.30 – 17.00 hr

(Chair: *Ning Liu*)

- A Movement Time Model of One-handed Touch Input on a Mobile Phone
Yong S. Park and Sung H. Han (Korea)
- Do the Users Really Hate It: Evidence from Both Explicit and Implicit Attitudes Towards Mobile Added-Value Service
Ning Liu, Zhiguo Wang, and Xianghong Sun (China)
- The Chinese Users' Attitude Toward Mobile Added-Value Service and the Factors Influencing the Formation of Attitude
Xianghong Sun, Ning Liu, Xianggang Xu, and Yan Ge (China)
- Cultural Differences between Chinese and Dane in Card Sorting
Weina Qu (China), Xianghong Sun (China), Ather Nawaz (Sweden), Thomas Plocher (USA), and Torkil Clemmensen (Denmark)

October 18, 2007 (Thursday)**Workshop: Asian Ergonomics Road Map (I)****Vibhavadee Ballroom B**

Thursday, 08.30 – 10.00 hr

(Commentator: *Sudthida Krungkraiwoong*)

- Introduction and Purposes
Kazutaka Kogi (Japan)
- Future Directions in Developing Ergonomics Research and Application in the Asian Region
Masaharu Kumashiro (Japan)
- Roles of Ergonomics for Advancing Business Management
Kwan Suk Lee and Dong Choon Lee (Korea)
- Approaches to Developing Self-reliant Ergonomics Program in Industries
Suebsak Nanthavanij (Thailand)
- Practical Steps for Developing Road Maps of Ergonomics Application in Major Technical Areas
Sadao Horino, Kazutaka Kogi, Kazuhiro Sakai, Koya Kishida, Motoki Mizuno, Takeshi Ebara, Shin Hong Son, and Tomoki Ohashi (Japan)

Workshop: Asian Ergonomics Road Map (II)**Vibhavadee Ballroom B**

Thursday, 10.30 – 12.00 hr

(Commentator: *Sudthida Krungkraiwoong*)

- Group discussion on assigned topics, led by appointed group leaders.
- Identifying strategies for developing feasible Asian ergonomics road map.

Session TP1-A: Accessible Design**Rangsit (A)**

Thursday, 13.30 – 15.00 hr

(Chair: *Kenji Kurakata*)

- Development of Japanese Industrial Standards on Accessible Design, and Joint Proposal for International Standards
Koichi Aizawa (Japan)
- Accessible Design and Surveys on Daily Inconveniences Experienced by Persons with Disabilities and Older Persons
Yasuyuki Hoshikawa and Yukiko Mizuno (Japan)
- ISO/TC 159 Activities on Accessible Design
Ken Sagawa (Japan)
- Accessible Design in Auditory Ergonomics
Kenji Kurakata, Tazu Mizunami, and Kazuma Matsushita (Japan)
- Comparison of Auditory Characteristics between the Elderly and Young People
Se Jin Park, Hyuja Lee, Chul Jung Kim, and Mohammad Mynuddin Gani Mazumder (Korea)

Session TP1-B: Cognitive Ergonomics (I)**Horvang (B)**

Thursday, 13.30 – 15.00 hr

(Chair: *Masahiro Hashimoto*)

- The Mediating Effect of Personality Type Upon the Relationship between Manufacturing System Design and Mental Workload
Masahiro Hashimoto, Indri Hapsari, and Masaharu Kumashiro (Japan)
- A Study for Development of the Index of Mental Workload Using the Oxidative-Stress Marker
Hiroyuki Izumi, Masanori Ohta, and Masaharu Kumashiro (Japan)

- Investigation on Correlation between Mental Workload and Situation Awareness of Pilots by Simulation Experiment
Shun-Ting Kuan, Wen-Jiang Chang, Min-Yang Wang, Wen-Ling Tsai, Wei Hsu, Jin-Ru Yen, and Hero Ho (Taiwan, R.O.C.)
- Perceived Workload Under Different Attention Demand During an Experimental Study
Adel Mazloum, Hiroyuki Izumi, Yoshiyuki Higuchi, and Masaharu Kumashiro (Japan)
- Psycho-Physiological Parameters to Identify Driver's Status by Using 'Mental Effort' Relative to 'Mental Demand' During Highway Driving
Sang-Young Yoon and Jung-Yong Kim (Korea)

Session TP1-C: Work Posture

Kambhangbejra I (C)

Thursday, 13.30 – 15.00 hr

(Chair: Kazuo Nakamura)

- Effects of Training on Reliability of Direct Posture Observation
Tetsuya Hasegawa, Koki Inoue, and Masaharu Kumashiro (Japan)
- Grouping of Working Postures in an Automobile Assembly Line Considering Working Areas and the Similarity of Working Postures
SungHyuk Kwon, Byungkee Chae, Seokhee Na, Min K. Chung, and Young W. Song (Korea)
- Time Series Analysis of Postural Coordination during Quiet Stance
Yuzo Takahashi and Masaharu Kumashiro (Japan)
- The Effect of Bed-Backrest Elevation System Combined with Hip and Knee Flexion on Lower Extremity Body-Pressure Reduction
Min-hee Kim, Won-gyu Yoo, Chung-hwi Yi, Han-sung Kim, and Su-jin Kim (Korea)
- Availability of Modal Body Motions for Enhancing Human-Friendly Interactive Systems
Kazuo Nakamura (Japan)

Session TP1-D: Anthropometry and Biomechanics

Kambhangbejra II (D)

Thursday, 13.30 – 15.00 hr

(Chair: Hardianto Iridiastadi)

- Development of Anthropometric Measurement Method for Body Circumferences Using Digital Image
Ari Widyanti, Aulia Ardiansyah, Yassierli, and Hardianto Iridiastadi (Indonesia)
- The Effect of Anatomical Structure of the Femur in Three-Dimensional Biomechanical Modeling
Yound-Jin Cho, Jung-Yong Kim (Korea)
- The Prediction of Body Dynamic Dimensions based on Grey Forecasting Theory
Ping Xiao, Wen-bin Zhang, Wei-ping Wang, and Hong-ge Wang (China)
- Effect of Energy Compound on Skeletal Muscle Strain Injury and Regeneration in Rats
Lihua He, Guozhen Li, Xin Feng, Hongmei Shi, Kangping Ye, and Sheng Wang (China)

Session TP1-E: Human-System Interaction

Kambhangbejra III (E)

Thursday, 13.30 – 15.00 hr

(Chair: Hong-In Cheng)

- Real-time Classification of Fear/Panic Emotion Based on Physiological Signals
Jaemin Chun, Hyekyoung Lee, Yong S., Park, Wonkyu Park, Jungchul Park, Sung H. Han, Seungjin Choi, Gerard Jounghyun Kim (Korea)
- A Comparison between Different Menus: Disorientation When Browsing on WWW
Yang-Peng Chen, Ching-Shie Chen, Eric Min-Yang Wang (Taiwan R.O.C.)
- Web-based Information System for Favorable Colors of Korean Elderly
Hong-In Cheng, Kyong-Hee Lee, and Hosoong Lee (Korea)
- Changes in Workloads During 120 Minutes of Work with Monocular HMD: Comparison with Mobile Viewer Viewing Video
Hidenori Togami, Noriaki Satoh, Masahiro Hashimoto, Hiroyuki Komada, Hiroyuki Izumi, Masaharu Kumashiro, Tetsuya Sakashita, Nobuyuki Miyake, and Takashi Shinomiya (Japan)
- Development of an Accelerated Front-End UCD Process Template for Mobile Service Development
Joohwan Lee, Sangwoo Bahn, Sun-uk Hwang, Chang Kyu Cho, Cheol Lee, Myung Hwan Yun (Korea)

Session TP2-A: Ergonomics for Elderly Population

Rangsit (A)

Thursday, 15.30 – 17.00 hr

(Chair: Praise Israsena Na Ayudhya)

- Application of Anthropometric Data of Elderly Population for Designing Everyday Products
Jung-Yong Kim and Ji-Soo Park (Korea)
- Caregiving for the Elderly in Thailand
Praise Israsena Na Ayudhya, Nuannoy Boonvong, and Prae Piromya (Thailand)
- The Aesthetic and Emotional Preferences of the Elderly and the Design Factors for E-Business Web Sites
Maxim Bakaev, Kyong-Hee Lee, and Hong-in Cheng (Korea)

- The Minimum Standard of Environment and Housing for Thai Elderly
Trirat Jarutach (Thailand)

Session TP2-B: Cognitive Ergonomics (II)

Horvang (B)

Thursday, 15.30 – 17.00 hr

(Chair: *Louhevaara Veikko*)

- Perceived Work Ability Reflects Ergonomics and Individual Characteristics
Louhevaara Veikko and Järvelin Susanna (Finland)
- Study of the Effective Methods to Detect the Cause of a Ventilator's Alarm Going Off
Jun Hamaguchi, Sakae Yamamoto, and Daiji Kobayashi (Japan)
- Relationship between Depersonalization Syndrome and Obsessive-Compulsive Symptom among Japanese Nurses
Miyuki Sugiura, Masataka Hirose, Yasuyuki Yamada, Yasunobu Nishi, and Motoki Mizuno (Japan)
- Relation between Typus Melancholicus and Medical Accident in Japanese Nurses
Yasuyuki Yamada, Masataka Hirose, Miyuki Sugiura, Aya Okada, and Motoki Mizuno (Japan)
- Incorporating Affective Responses into Design Attributes in Movies using Biosignal
Sangwoon Bahn, Wonyong Suh, Hyungsup Kim, Minchoo Jung, and Myung Hwan Yun (Korea)

Session TP2-D: Lifting

Kambhangbejra II (D)

Thursday, 15.30 – 17.00 hr

(Chair: *Rosnah Mohd. Yusuff*)

- Health Related Problems of Lifting Tasks in an Oil Palm Factory in Malaysia
Rosnah Mohd. Yusuff, A. Zulkarnain, B.M.T. Shamsul, and C.Z. Wan (Malaysia)
- Lifting Capacity Variation According to Trunk and Upper Arm Angles
Seong Rok Chang, Dong Cheol Bae, and Hyunggu Park (Korea)
- Load and Risk Profile for Analyzing and Developing Physical Work
Louhevaara Veikko, Kähkönen Jukka, and Hokkanen Timo (Finland)
- The Evaluation of Manual Lifting Task by ML-Expert System: A Case Study of Sample Factories
Prachuab Klomjit and Kongkiti Pusavat (Thailand)

Session TP2-E: Human Errors and Accidents

Kambhangbejra III (E)

Thursday, 15.30 – 17.00 hr

(Chair: *Sasitorn Taptagaporn*)

- Development of a Comprehensive Analysis Model for Human Error Prevention in Industrial Fields
Kwan Suk Lee, Hyeon Kyo Lim, Seong Rok Chang, Dwang Won Rhie, and Yu Chang Kim (Korea)
- Human Error and Accident at Work: A Case Study in Laem Chabang Port
Sasitorn Taptagaporn, Wanpen Pacharatrakul, and Orrapan Untimanon (Thailand)
- Study on Training Method for Preventing Plant Operator's Erroneous Thinking in Malfunction Diagnosis
Daiji Kobayashi, Hiroaki Murata, and Sakae Yamamoto (Japan)
- Tele-Field Study on Traffic Accident Process by Means of Image-Recording Type Drive-Video-Recorder-Near Accident Analysis of Taxi Against Bicycle
Sadao Horino, Midori Mori, Noboru Kubo, Sou Kitajima, and Tuyoshi Katayama (Japan)
- Ergonomic Improvement of Visibility at Urban Intersections for Preventing Frequent Crossing Collisions
Midori Mori and Sadao Horino (Japan)
- An Investigation of the Basic Causes of Cognitive Human Errors in Industrial Fields
Takashi Torizuka (Japan)

October 19, 2007 (Friday)

Session FA1-A: Ergonomics and Computer Work (I)

Rangsit (A)

Friday, 08.30 – 10.00 hr

(Chair: *Somrote Komolvanij*)

- Comparison of Muscle Activity and Input Performance of Operators Using Computer Mouse and a Trackball
Hwan-suk Yoo, Chung-hwi Yi, Oh-yun Kwon, Hye seon Jeon, and Won-gyu Yoo (Korea)
- Analytical Algorithms for Adjusting Body Orientation and Notebook Computer Settings to Obtain Ergonomic Seated Posture
Sakib Jalil and Suebsak Nanthavanij (Thailand)
- Ergonomic Intervention for Improving Work Posture during Notebook Computer Operation
Nuchrawee Jamjumrus and Suebsak Nanthavanij (Thailand)

- Use of “Workstation – NBC” Adjustment Matrix as a Practical Tool to Estimate Recommended Adjustments for Proper Work Posture
Sakib Jalil, Veeris Ammarapala, and Suebsak Nanthavanij (Thailand)

Session FA1-B: Ergonomics Applications

Horvang (B)

Friday, 08.30 – 10.00 hr (Chair: *Andrea Shaw*)

- Don't Freeze! Designing Safer Workplaces Using Participative Ergonomics Approaches – Case Studies from Meat and Cold Storage Industries
Andrea Shaw (Australia)
- The Evaluation and Improvement of SEM Inspection Task in Semiconductors Industry
Chih-Long Lin, Mao-Jiun J. Wang, and Fu-Sheng Chen (Taiwan, R.O.C.)
- KAIZEN Research for Sustainable Production Field Construction
Koki Mikami, Masahiro Shibuya, Kenichi Iida, and Masaharu Kumashiro (Japan)
- Developing Organizational Audit Guideline for Effective Ergonomics Program Implementation
Durongrit Channarong and Naris Chareonporn (Thailand)

Session FA2-A: Ergonomics and Computer Work (II)

Rangsit (A)

Friday, 10.30 – 12.00 hr (Chair: *Somrote Komolvanij*)

- Survey of Perceived Work-related Musculoskeletal Discomforts (WMSDs) Among Thai Office Employees Working Predominantly with Notebook Computers
Nuchrawee Jamjumrus and Suebsak Nanthavanij (Thailand)
- Developing a Neural Network Based Expert System for Evaluating Desktop and Notebook Computer Operations and Workstations
Somrote Komolvanij and Suebsak Nanthavanij (Thailand)
- PostureAdjuster: Decision Support System for Ergonomic Notebook Computer Operations
Sakib Jalil, Suebsak Nanthavanij, and Junalux Chalidabhongse (Thailand)

Session FA2-B: Ergonomics Applications

Horvang (B)

Friday, 10.30 – 12.00 hr (Chair: *Hiromi Ariyoshi*)

- A Study of Critical Factors to Accomplish Ergonomics Implementation using Analytic Hierarchy Process
Wuttichai Sungkasub and Naris Chareonporn (Thailand)
- A Study of Work Management for Female Workers at a Food Processing Company
Masahiro Shibuya, Koki Mikami, Kenichi Iida, Kenichi Hatazawa, and Masaharu Kumashiro (Japan)
- Measures for Working Environment Improvements at a Factory
Hiromi Ariyoshi (Japan)