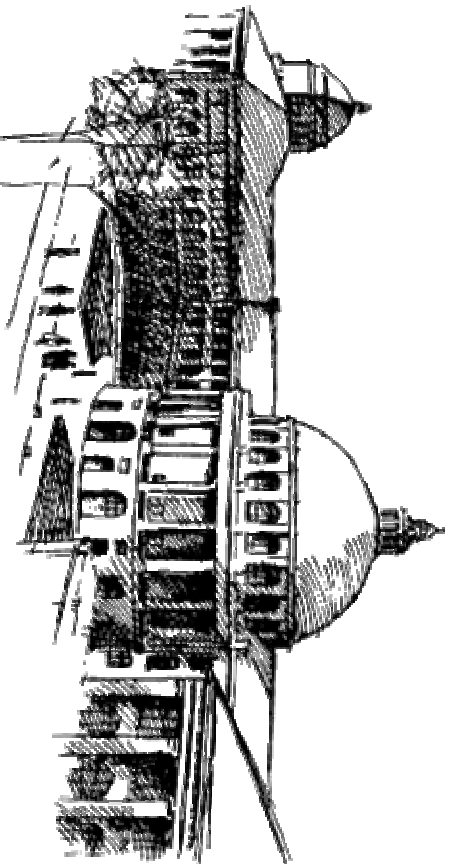


Premus 2004

**Fifth International Scientific Conference
on
Prevention of Work-related
Musculoskeletal Disorders**



**July 11-15, 2004
ETH Zurich
Zurich, Switzerland**

Final programme

Organising Committee

Conference organisers

The conference is organised on behalf of the ICOH Scientific Committee Musculoskeletal Disorders by:
Institute of Hygiene and Applied Physiology, Swiss Federal Institute of Technology, Zurich
Department of Rheumatology and Institute of Physical Medicine, University Hospital Zurich

Local organizing committee:

Scientific program

Thomas Läubli, ETH Zürich
Andreas Klipstein, University Hospital Zurich

Executive secretary and coordination

Peter Schenk, ETH Zurich

Infrastructure and organisation

Mark Brink, ETH Zurich
Pamela Ravasio, ETH Zurich
Rebekka Schärer, University Hospital Zurich
Susanne Spillmann, University Hospital Zurich
BBS Congress GmbH, Bern:
- Barbara Bühlmann
- Peter Salchli
- Adrian König

International Scientific committee

Paulien Bongers, TNO Work and Employment, The Netherlands
Peter Buckle, University of Surrey, United Kingdom
Bernd Hartmann, Arbeitsmedizinischer Dienst der Bau- Berufsgenossenschaft, Germany
Toru Itani, Nagoya City University Medical School, Nagoya City, Japan
Laura Punnett, University of Massachusetts Lowell, Lowell, U.S.A.
Hilkka Riihimäki, Finnish Institute of Occupational Health, Helsinki, Finland

Advisory board

Armstrong, Thomas J, University of Michigan, Michigan, USA
Balagué Vives, Francesc, Barcelona, SPAIN
Bammer, Gabriele, Australian National University, Canberra, Australia
Brisson, Chantal, Saint-Sacrement Hospital, Quebec City, Quebec, Canada
Evanoff, Bradley, Washington University, Washington, USA
Cole, Donald, IWH, Toronto, Canada
Franzblau, Alfred, University of Michigan, Ann Arbor, Michigan, USA
Frings-Dresen, Monique, Prof. Academic Medical Center/University of Amsterdam, Amsterdam, The Netherlands
Hagberg, Mats, Department of Occupational Medicine, Göteborg, Sweden
Keyserling, W. Monroe, The University of Michigan, Ann Arbor, Michigan, USA
Kuorinka, Ilkka, Gréalou, France
Leclerc, Annette, Hôpital National de Saint-Maurice, St.- Maurice Cedex, France
Leino-Arjas, Päivi, Finnish Institute of Occupational Health, Helsinki, Finland
Marras, William, Ohio State University, Columbus, Ohio, USA
Mairiaux, Philippe, Université de Liège, Liege, Belgium
Martin, Bernard, University of Michigan, Ann Arbor, Michigan, USA
Moens, Guido, IDEWE, Leuven, Belgium
Nakata, Minoru, University of Gävle, Umea, Sweden
Padilla, Patricia, General Motors Colmotores S.A., Santafé de Bogotá, D.C., Columbia
Rempel, David, University of California, San Francisco, California, USA
Toomingas, Allan, National Institute for Working Life, Stockholm, Sweden
Tomqvist, Ewa Wigaeus, National Institute for Working Life, Solna, Sweden
Schibye, Bente, National Institute of Occupational Health, Copenhagen, Denmark
Barbara Silverstein, Washington State Dept. of Labour & Industries, Olympia, USA
Sjøgaard, Gisela, National Institute of Occupational Health, Copenhagen, Denmark
Theorells, Tores, National Institute of Psychosocial Factors and Health, Stockholm, Sweden
Viikari-Juntura, Eira, Göteborg University, Göteborg, Sweden
van der Beek, Allard J, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands
Wegman, David H, University of Massachusetts Lowell, Massachusetts, USA
Winkel, Jørgen, National Institute for Working Life, Göteborg, Sweden

Contact:

Premus2004
Swiss Federal Institute of Technology
Institute of Hygiene and Applied Physiology
Clausiusstrasse 25
CH 8092 Zürich

phone: +41 (0)1 632 48 09
fax: +41 (0)1 632 11 73
email: premus2004@web.ethz.ch
www.premus2004.ethz.ch

General information

Date and location

The fifth international conference on prevention of work-related musculoskeletal disorders PREMUS2004 and the associated pre-conference workshops and tutorials will be held in Zurich, Switzerland in the main building of ETH on July 11th till 15th.

ETH Zürich
Rämistrasse 101
CH-8092 [Zürich](#)

Language

The official language of the conference is English.

Speakers

The duration of an oral presentation is 10 minutes, followed by 5 minutes for discussion and transition to the subsequent speaker.

The conference rooms will be equipped with
1 computer with WindowsXP and Office 2000
1 data projector
1 overhead projector
1 35mm slide projector with remote control

Please note:

1. Presenters will not be allowed to connect their own computers.
2. Presenters are compelled to hand in their presentation(s) at the conference office, at latest two hours before your session starts.
3. We only accept presentations handed over in Microsoft Power Point (.ppt) or Adobe PDF (.pdf) format.
4. We accept presentations on CD-ROM, USB memory sticks, ZIP-100, floppy disks or from your network folder. Since we are equipped with PCs: Please make sure in advance that your data medium is DOS (not Mac etc.) formatted.
5. If you have movies, animations or sounds etc. included in your presentation, use the function "Pack&Go" (or "Package for CD" in Office 2003).
6. If you intend to bring your presentation on 35mm slides, please inform us in advance.

Badges

Upon registration, you will receive a personal badge and other conference information. We kindly ask you to wear your badge during the whole meeting.
The organizers would appreciate if you return your badge to the registration desk at the end of the conference.

Certificate of attendance

At the registration desk, we will hand out an official certificate of your attendance to the conference.

Lunch, coffee and tea

Coffee and tea will be served for all the participants of the conference near the lecture rooms in the poster exhibition area (Floor F and G).

Participants who registered for the entire conference will receive vouchers for lunches at ETH main mensa on Monday, Tuesday and Wednesday. The mensa is located under the terrace in front of the main building. The voucher includes one of the menus (menu I, Special menu, vegetarian menu or a mixed salad of your choice from the salad buffet), a bread roll, a dessert and a drink.

Messages

Messages for participants as well as program changes and actualities will be hanging on a notice board close to the registration desk

Posters

Posters should be mounted before 11 o'clock (the day depends on the poster programme) and should be removed at the end of the exhibition. The number of the abstract in the proceedings book corresponds with the number of the poster; each poster will be assigned to a poster board.

Pre-conference Workshops and Tutorials

All our pre-conference events will take place at Department of Rheumatology, University Hospital Zurich.

University Hospital Zurich
Rämistrasse 100
CH-8091 [Zürich](#)

Public transport ticket

All participants who registered for the entire conference will receive a public transport ticket valid from Sunday July 11th until Thursday July 15th. This will allow you to use any tram, bus or train in the urban area of Zurich (Zone 10, but NOT valid from Zurich city to the airport). Tram lines that stop at the conference venue are Nr. 6, 9 and 10. You can also reach the conference venue by the famous cable car called "Polybahn" that shuttles between Central (tram lines 3, 4, 6, 7, 10, 15) and the conference venue.

Social programme

Pre-conference-registration / Get-together-party

The pre-conference registration opens Sunday July 11th at 14:30 in the GEP pavilion. The GEP pavilion (Leonhardstrasse 34, 8092 Zurich) is located just in front of the ETH main building, beside the terrace which offers a wonderful view over the old town of Zurich and the surrounding mountains.

The welcome reception offered by the state and city of Zurich will start at 5 o'clock. Welcome address by Mr. Stadtrat Martin Vollenwyder, Government of the city of Zurich.

Social evening

Fee CHF 70.-

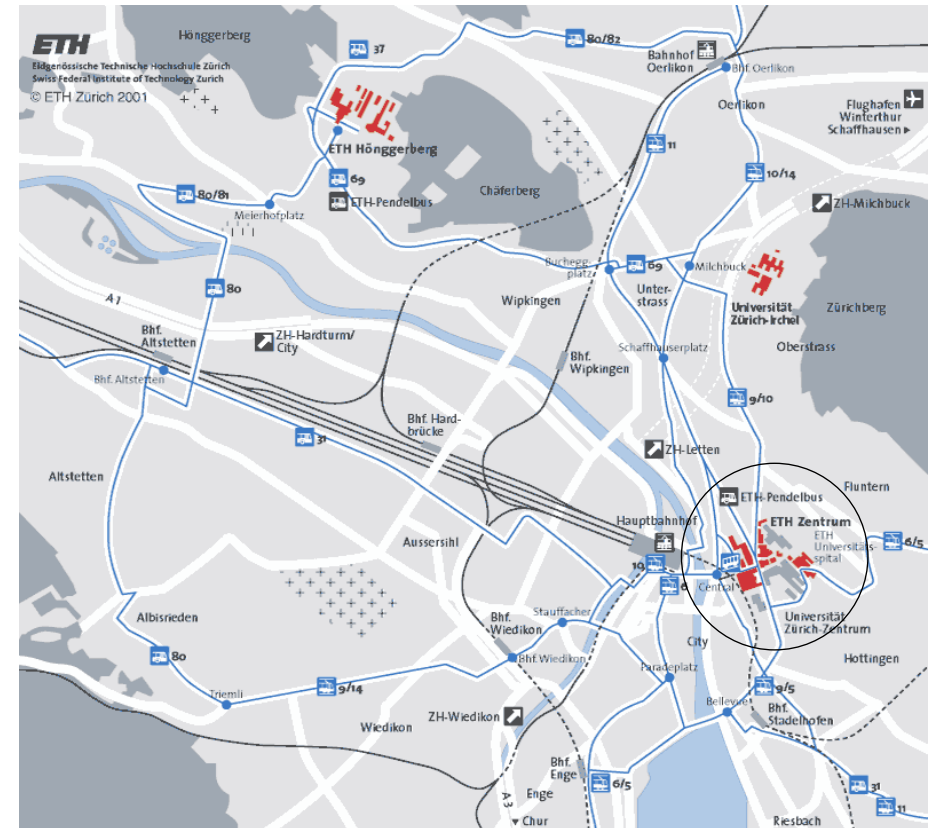
We will have a savoury outdoor buffet and cool drinks in a beach-like atmosphere in a beautiful park in the middle of the city. A large pool is also there if you like to swim, and some outdoor sports facilities like volleyball pitches etc. Make sure to bring a bathing suit/towel with you. If you have not yet registered for the social evening so far, there is the possibility to do so at the registration desk.

Please note: only participants with an admission card will be admitted to the social evening. This card will be handed out at the registration desk to all who have registered to the social evening.

Farewell Snack

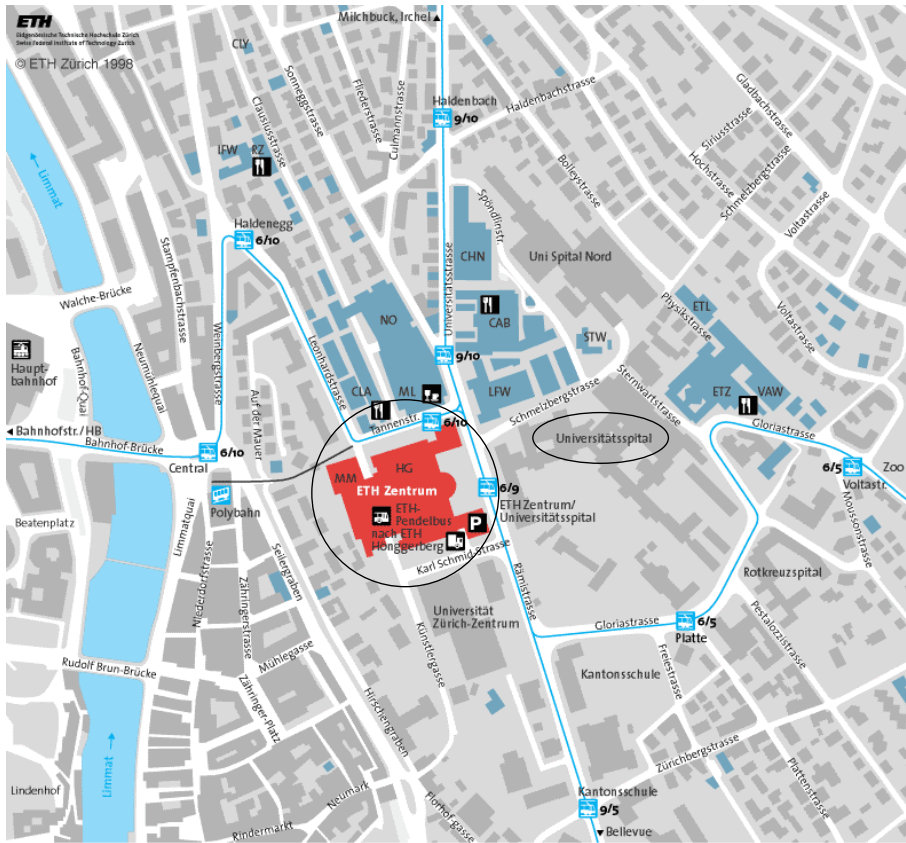
A farewell snack will be offered in the break before the official closing plenary session.

Map of the City of Zurich



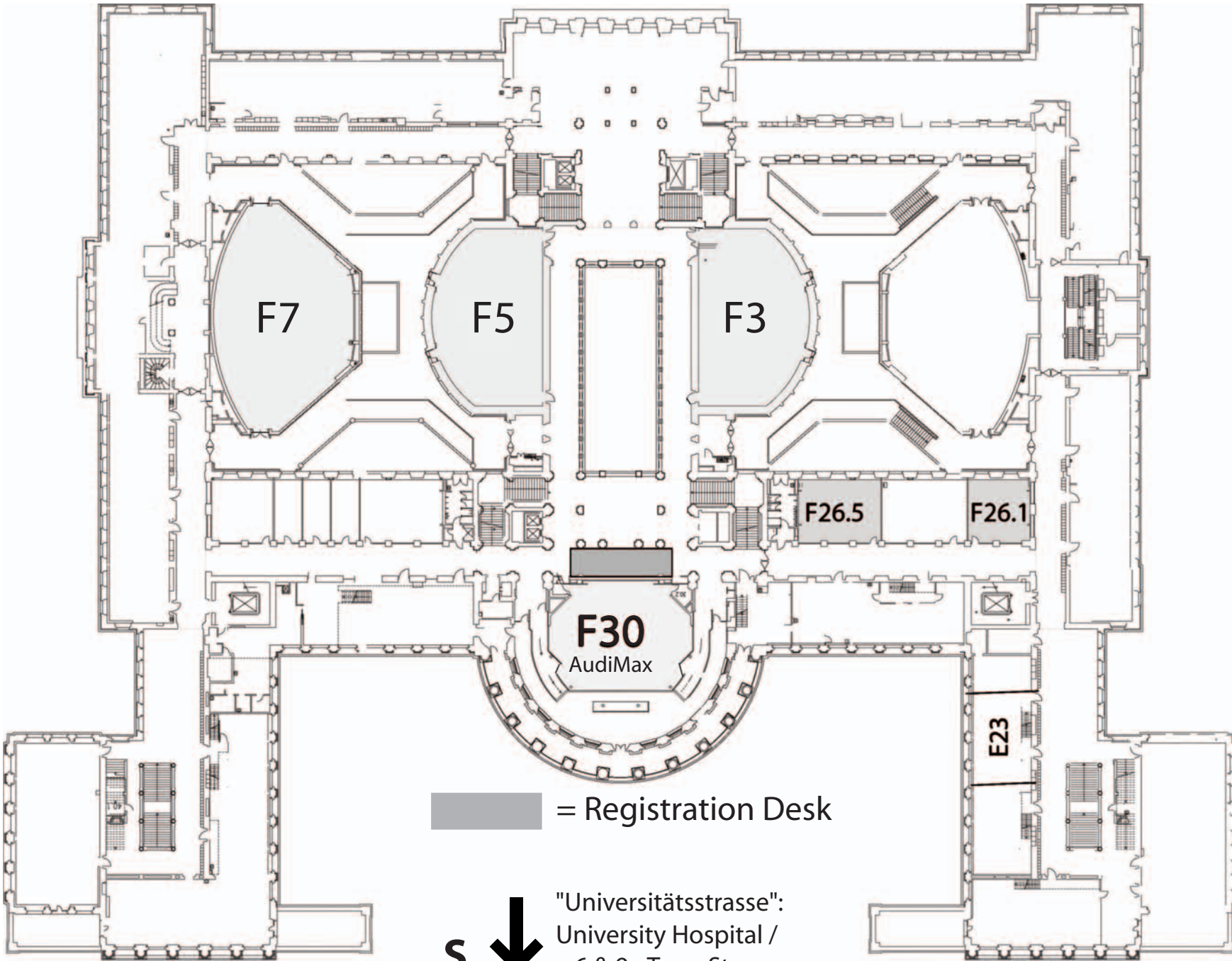
The conference venue is the main building of ETH Zentrum, located very close to Zurich main station.

Map or the conference venue



Detailed map of the conference venue *ETH Zentrum* (left) and the location of the pre-conference workshops and tutorials (University hospital, right)
The numbers indicate the tram lines. A nice and comfortable way to travel from the inner city to the conference city is with the cable car called *Polybahn* that shuttles between *Central* and *ETH Zentrum*.

N ↑ "Polyterrasse":
City Center /
View Point



F3, F5, F7, F30:
Sessions

F 26.1:
Conference
Office

F 26.5:
Cloak Room

E 23
(one floor down) :
Internet Room

Workshop w1:
Physical exposure assessment of hand activities.
[9:00-12:00]
Room UO 157 a
Workshop leader: Stephen Bao, PhD
Department of Labor and Industries, Washington, USA

Workshop w2:
**Occupational health prevention of musculoskeletal disorders:
The German experience.**
[9:00-12:00]
Room UO 157 b
Workshop leader: Prof. Bernd Hartmann
Bau-Berufsgenossenschaft Hamburg, Germany

Workshop w5 (part I):
Designing and running effective ergonomic intervention studies.
[9:00-12:00]
Room UO 471
Workshop leaders: Patrick Neumann and Prof. Jorgen Winkel
National Institute for Working Life, Göteborg, Sweden

Lunch
[12:00-14:00]
Vouchers for lunch at the hospital restaurant (CHF 17.-) will be available

Workshop w3:
A tutorial on surface electromyography.
[14:00-17:00]
Room UO 157 a
Workshop leaders: Hermie Hermens, Ph. D. and Miriam Hutten-
Vollenbroek, Ph. D.
Roessingh Research and Development, Enschede, The Netherlands

Workshop w4:
Workshop on mechanisms of musculoskeletal disorders.
[14:00-17:00]
Room UO 157 b
Workshop leader: Shrawan Kumar Ph.D.
Ergonomics Research Laboratory, Department of Physical Therapy,
University of Alberta, Edmonton, Canada

Workshop w5 (part II):
Designing and running effective ergonomic intervention studies.
[9:00-12:00]
Room UO 471
Workshop leaders: Patrick Neumann and Prof. Jorgen Winkel
National Institute for Working Life, Göteborg, Sweden

Pre conference registration
[14:30-19:00]
GEP Pavilion, Leonhardstrasse 34
(in front of ETH main building, beside the upper station of the cable car "Polybahn")

WELCOME RECEPTION offered by the State and City of Zurich.
WELCOME ADDRESS by Hr. Stadtrat Martin Vollenwyder, Government of the City of Zurich.
[17:00-19:00]
Terrace of GEP Pavilion, Leonhardstrasse 34
(in front of ETH main building)

Opening Ceremony

Welcome by the organizing institutes:

Short communications:

From a larger research field to the conference main topic.

Prof. J. Steurer and Prof. S. Gay (University Hospital Zurich)

Prof. H. Krueger (Federal Institute of Technology, Zurich)

Welcome by the local committee:

Andreas Klipstein, Thomas Laeubli, Peter Schenk

[9:00-9:45]

Auditorium Maximum

Invited lecture A

[9:45-10:30]

Auditorium Maximum

Chairs: Mairiaux, P. & Winkel, J.

Keynote 1

Societies attitude towards prevention of WRMSD.

Prof. Barbara Silverstein, Washington State Dept. of Labour & Industries, USA

Coffee Break

[10:30-11:00]

Minisymposium m1:
Political and cultural responses to WRMSD in different countries.
 [11:00-12:30]
Auditorium Maximum
Chairs: Silverstein, B. & Itani, T.

WMSDs in Thailand : Problem to be solved.
Sudthida Krungkrai Wong (Thailand)

Prevention of WMSDs using ISO/TS 20646 'Ergonomic procedures for the improvement of local muscular workloads.
Takeshi Ebara, Norihide Tachi, Hidemaro Takeyama et al. (Japan)

Prevalence of Musculoskeletal problems among female Agricultural workers.
Ruplekha Borah, Mira Kalita and Bijoylakshmi Bhuyan (India)

Musculoskeletal disorders and peripheral nervous system disorders in the workers of Nizhny Novgorod region of Russia.
Viacheslav Troshin, Nikolay Mateev, Natalia Mokeeva (Russia)

Musculoskeletal Disorders Among Airport Check-in Workers: Discovering the Unknown.
Ellen Rosskam (Switzerland)

Oral session 01:
Manual material handling
 [11:00-12:30]
Room F3
Chairs: Buckle, P. & Franzblau, A.

Footwork as a strategy for reducing risk factors in manual materials handling : a summary of studies.
Micheline Gagnon (Canada)

Measurement and Prediction of Cumulative Load in X-ray Technologists.
Shrawan Kumar, Yogesh Narayan and Lil Moro (Canada)

Types of grip used when handling different weight loads from high and low surfaces.
Rosimeire Padula, Viviane Souza, Helenice Coury (Brazil)

A Comparison of Measurement Methods for Quantifying Hand Force in Ergonomics Assessments.
Elin Koppelaar and Richard Wells (Canada)

Influence of manual handling tasks on estimates of moved weights.
Hubert Janik, Torsten Reckziegel, Karlheinz Schultz et al. (Germany)

Influence of characteristics of support surface on postural dynamics in isometric force production.
Clarisse Gaudenz, James Richardson and Serge Le Bozec (France)

Oral session 02:
Course and incidence of WRMSD
 [11:00-12:30]
Room F5
Chairs: Blatter, B. & Wærsted, M.

The dynamic course of neck and shoulder complaints in a working population.
Jolanda J. Luime, Bart W. Koes, Harald S. Miedema et al. (The Netherlands)

The influence of work-related exposures and individual factors on the incidence of neck and upper limb symptoms among professional computer operators.
Ewa Wigaeus Tornqvist, Mats Hagberg, Maud Hagman et al. (Sweden)

Incidence of Musculoskeletal Disorders among Musicians – A Retrospective Cohort Study.
Mats Hagberg, Gunnar Thiringer, Lars Brandström (Sweden)

Neck/shoulder pain in a prospective study of technical school students: high prevalence initially only in females.
Nina Østerås, Kristian Gould, Morten Wærsted et al. (Norway)

Variability of UEMSD clinical status in an assembly line factory – A three year follow-up study.
Agnès Aublet-Cuvelier, Huguette Weber and Michel Aptel (France)

Prediction of the onset of work-related musculoskeletal disorders of the upper limbs: A prospective study in an automotive industry plant.
M. Filomena Brandão, Pedro Aguiar, António Veloso et al. (Portugal)

Oral session 03:
Exposure assessment by questionnaire
 [11:00-12:30]
Room F7
Chairs: Huwiler, J. and Punnett, L.

Concordance between observation of workstation layout and working postures, and ratings of perceived exertion and comfort during VDU-work.
Agneta Lindegård Andersson, Karlberg Catarina Ewa Wigaeus Tornqvist et al. (Sweden)

Scale Development for Assessment of Occupational Health Hazards Among Farmwomen.
Suman Singh and Sushma Sinwal (India)

Validation of a self-administrated questionnaire for exposure assessment to work related low back pain risk factors.
Pierre-R. Somville, An Van Nieuwenhuysse, Danièle Pierne et al. (Belgium)

Reliability and Validity of the Canadian French Adaptation of the Work Role Functioning Questionnaire.
Marie-José Durand, Brigitte Vachon, Patrick Loisel et al. (Canada)

Examination of the utility of the strain index.
Susan E. Wands (Canada)

Lunch
 [12:30-13:45]

Interactive poster session 1:
Prevention and Rehabilitation
 [13:45-14:15]
 Auditorium Maximum
 Chairs: Hegmann, K. & Winkel, J.

Musculoskeletal risk factors among 334 supermarket cashiers of the Paris area.
Janick Le Pache, Christophe Chaney, Christine Aucour et al. (France)

Risk Factors for Back Pain and Long-term Effects of a Complex Intervention Program at BASF Aktiengesellschaft, Ludwigshafen.
Rolf-Peter Pluto, Hans-Dieter Nolting and Andreas Zober (Germany)

Patient-handling and low back pain: methodological approach and preliminary results of a multidisciplinary preventive intervention in a large Italian hospital.
Stefano Porru, Angela Carta, Paola Paglierini et al. (Italy)

Results of an intensive rehabilitation program for workers with chronic low back pain.
Nicole Mayery, Aurélie Duveau, Ingrid Lemrereur et al. (Luxembourg)

Back schools for non-specific low back pain: an updated systematic review within the framework of the Cochrane Collaboration.
MW Heymans, MW van Tulder, R Esmail, et al. (The Netherlands)

Decreasing the risk of falling in elderly people with severe osteopenia or osteoporosis.
Jaap Swanenburg, Marguerite Stauffacher, Ruud Knols et al. (Switzerland)

Interactive poster session 12:
EMG
 [13:45-14:15]
 Room F3
 Chairs: Westgaard, R. & Hermens, H.

The prevalence of work related low back pain and the significance of using sEMG analysis of trunk muscles among foundry workers.
Ling Lei, Jian-guo Xu, Guo-bing Xiao et al. (China)

Development of an electromyographic method for strain assessment during Functional Capacity Evaluation (FCE according to S. Isernhagen).
Sandra Fabian and Heike Hesse (Germany)

A method for evaluation of sustained low-level muscle activity.
Kaj Bo Veiersted and Tove Østensvik (Norway)

A Novel EMG Signal Decomposition Approach Using a Graphical Model and an Iterative Algorithm.
Volker M. Koch and Hans-Andrea Loeliger (Switzerland)

Signs of muscular fatigue in the cross covariance functions of surface EMG signals.
Roland Grassme, Dario Farina, Roberto Merletti et al. (Germany)

On the Muscle Activity During a One Hour Tapping Task.
Satoru Ueno, Peter Schenk, Andreas Klipstein, et al. (Japan)

Interactive poster session 13:
Risks and correlates of WRMSD
 [13:45-14:15]
 Room F5
 Chairs: Bao, S. & van der Beek, A.

Health situation at Swedish call centres.
Allan Toomingas and Tohr Nilsson (Sweden)

Work demands, prevalence of musculoskeletal pain and stress symptoms on trainees of the collect section of an international bank located in São Paulo, Brazil.
Débora Miriam Raab Glina and Lys Esther Rocha (Brazil)

Are young workers at higher risk of work-related musculoskeletal disorders? Analysis of Quebec Workers' Compensation data from 1995-2000 for Montreal Island workers.
Susan Stock, Fabien Gongonbé, Sophie Goudreau (Canada)

Factors that influence job survival in working-aged patients awaiting surgery on the hip or knee.
Keith Palmer, Peter Milne, Jason Poole and David Coggon (UK)

Musculoskeletal disorders and age: the preliminary results of a cohort study carried out on a population of Italian workers.
Norma Barbini, Rosa Squadroni, Gaia Beretta (Italy)

Prevalence of neck, shoulder and arm symptoms in Europe.
Birgitte Blatter and Heleen De Kraker (The Netherlands)

Interactive poster session 14:
Exposure assessment
 [13:45-14:15]
 Room F7
 Chairs: Tornqvist E. & Kuijer, P.

Shoulder postures during simulated ultrasonographical exams.
Ana Beatriz de Oliveira, Luis C. Paschoarelli, Helenice J. C. Gil Coury (Brazil)

Do physical therapists recognize established risk factors? Swedish physical therapists evaluation in comparison to guidelines.
Thomas Overmeer, Steven J Linton and Katja Boersma (Sweden)

Assessment of exposures in an ergonomic intervention at kitchen work.
Esa-Pekka Takala, Irmeli Pehkonen, Hilikka Riihimäki et al. (Finland)

Relationship between task recording methods in an office environment.
Dwayne Van Eerd, Anjali Mazumder, Sheilah Hogg-Johnson et al. (Canada)

Ergonomic Value Stream Mapping – an integrated rationalization tool considering ergonomics and productivity.
Svend Erik Mathiassen, Caroline Jarebrant, Birgitta Öjmertz et al. (Sweden)

Influence of Biomechanical and individual factors on the occurrence of musculoskeletal disorders on the neck-shoulder and wrist.
António Veloso, M. Filomena Brandão, Hugo Gamboa et al. (Portugal)

Short Break
 [14:15-14:30]

Invited lectures B:

[14:30 – 16:00]

Auditorium Maximum

Chairs: Hermens, H. & Viikari-Juntura, E.

Keynote 2

Case definitions.

*Prof Francesco Violante, University of Bologna, Italy
and*

*Prof Mats Hagberg, Sahlgrenska University Hospital,
Sweden*

Keynote 3

Prevention of WRMSD in construction industries

*Prof Bernd Hartmann, Bau-Berufsgenossenschaft
Hamburg, Germany*

No session

Oral session 04:

Farming and general population

[14:30-16:00]

Room F5

Chairs: Burt, S. & Leclerc, A.

An Exploratory Study on Health and Musculoskeletal Hazards Among Agricultural Workers of India.
Rekha Vyas and Suman Singh (India)

Prevalence of musculoskeletal pain in the Netherlands, working versus non-working population, the DMC3-study.
Susan Picavet (The Netherlands)

Prevalence of Lateral Epicondylitis and Physical Examination Findings in a Cohort at Baseline.
Matthew S. Thiese, Kurt T. Hegmann, and Arun Garg (USA)

Musculoskeletal Disorders Among the Workers Engaged in Different Activities in Tea Industry.
Nandita Bhattacharyya and Ruplekha Borah (India)

Incidence of carpal tunnel syndrome in the general population: a descriptive analysis of hospital cases in six Italian regions.
Mattioli S., Domenichini I., Gnudi F., Baldasseroni A., Bena A. et al. (Italy)

The physical strain in large cowhouses.
Merja Perkiö-Mäkelä, Henna Hentilä and Nina Nevala (Finland)

Oral session 05:

Motor control

[14:30-16:00]

Room F7

Chairs: Martin, B. and Sjøgaard, G.

The effect of mental stress on lumbar position sense acuity.
Nis Hjortskov, Christian Hye-Knudsen and Nils Fallentin (Denmark)

The effect of fatigue on aiming precision and position sense.
Maaïke Huysmans, Marco Hoozemans, Michiel De Looze et al. (The Netherlands)

Squat-lifter and stoop-lifter use different segmental lumbar spine motion patterns.
Falk Mörl and Reinhard Blickhan (Germany)

Biomechanical study for evaluating the work-relatedness of lateral epicondylitis.
Toshihiko Imaeda, Yuichiro Ono and Kai-Nan An (Japan)

Changed motor performance in subjects with a history of a-specific repetitive strain injury.
Harm Slijper, Maarten Frens, Jeroen Smeets (The Netherlands)

Association between jaw function and postural control in neck-related musculoskeletal disorders.
Per-Olof Eriksson, Hamayun Zafar and Mattias Backén (Sweden)

Coffee break

[16:00-16:30]

Minisymposium m2

Case definition

[16:30-18:00]

Auditorium Maximum

Chairs: F. Violante and M. Hagberg

Introduction.

Francesco Violante (Italy)

Criteria for case definitions for upper limb disorders to be used in epidemiologic studies considering an "evidence based" approach.
David Rempel (USA)

Criteria for case definitions for low back disorders to be used in epidemiologic studies considering an "evidence based" approach.
Hilkka Riihimäki (Finland)

Criteria for case definitions to be used in surveillance considering an "evidence based" approach.
Barbara Silverstein (USA)

Criteria for case definitions to be used in clinical assessment considering an "evidence based" approach.
Eira Viikari-Juntura (Sweden/Finland)

Does Physical examination assist in the evaluation of disorders of the neck and upper limb?
Isabel Reading (UK)

Agreement among upper limb musculoskeletal classification systems.
Dwayne van Eerd (Canada)

Oral session 06:

Vibration

[16:30-18:00]

Room F3

Chairs: Ono, Y. & Rempel, D.

Musculoskeletal problems and occupational exposure to whole body vibration, posture and manual materials handling: A study of three groups of drivers.
O. Okunribido, M. Magnusson, M.H. Pope (UK)

Effect of number of forearm muscles recorded from and grip width in the prediction of handgrip forces using surface EMG.
Marco Hoozenmans and Jaap Van Dieën (The Netherlands)

The Whole-Hand vibration exposure effect on the position sense of the wrist joint.
Sasa Radovanovic, Scott Jason Day and Hakan Johansson (Sweden)

Reducing whole-body vibration and improving posture with a new seating design for professional drivers.
Mohsen Makhous, Zachary Crowther, Fang Lin et al. (USA)

Intermittent and sustained hand grip contractions and low frequency fatigue: influence of age or vibration.
Bernard J. Martin, Diane E. Boscaroli-Adamo, Pete Johnson (USA)

Musculoskeletal disorders among professional drivers of terrain vehicles.
Börje Rehn, Tohr Nilsson and Bengt Järvholm (Sweden)

Oral session 07:

Correlates of WRMSD

[16:30-18:00]

Room F5

Chairs: van der Beek, A. & Wærsted, M.

Pressure pain thresholds and musculoskeletal morbidity in automobile manufacturing workers.
Judith E. Gold and Laura Punnett (USA)

Correlation between Musculoskeletal Disorders (MSD) and Visual Discomfort.
Arne Aarås and Gunnar Horgen (Norway)

Seeking Care for Neck/Shoulder Pain: A prospective study of work-related risk factors in a healthy population.
Wilhelmus Johannes Andreas Grooten, Christina Wiktorin, Linda Norrman et al. (Sweden)

Is computer work a risk factor for developing symptoms in the shoulder, elbow and back – The 'BIT'-follow-up study on office workers.
Birgit Juul-Kristensen, Karen Søgaard, Jesper Strøyer et al. (Denmark)

Perceived muscular tension predicts neck/shoulder symptoms among visual display unit users. A prospective cohort study.
Jens Wahlström, Mats Hagberg, Allan Toomingas et al. (Sweden)

Types of upper extremity musculoskeletal disorders occurring in automobile manufacturing workers.
Laura Punnett, Judith E. Gold, Jeffrey N. Katz et al. (USA)

Minisymposium m3:

ICOH SC construction : Prevention and intervention

[16:30-18:00]

Room F7

Chairs: Hartmann, B.

Costs and effects of ergonomic improvements for floor layers.
Alex Burdorf, Willem-Jan Meerding and Judith Windhorst (The Netherlands)

Reduction of knee straining working activities and knee disorders in the floor laying trade. An intervention study. Results from the Questionnaire study.
Lilli Kirkeskov Jensen and Claus Friche (Denmark)

How does we succeed in implementation of new working methods? An example from an intervention study on floor layers.
Claus Friche and Lilli Kirkeskov Jensen (Denmark)

Phases in the implementation process of evidence-based measures to reduce physical work demands in bricklaying.
Henk F. Van der Molen, Judith K. Sluiter and Monique H.W. Frings-Dresen (The Netherlands)

Machinery Tools in Bricklaying - Preventive Advantages.
Bernd Hartmann, Horst Necker, Sonja Werner, Ludwig Donker (Germany)

Poster exhibition

[18:00-18:30]

Minisymposium m4:
The NEW project
[9:00-10:30]
Auditorium Maximum
Chair: Hermens, H.

Introduction to the ideas and the backgrounds of the NEW project.
Hermie Hermens (The Netherlands)

Functional capacity in low back cases and controls related to physical work exposures - The NEW study.
Hanne Christensen, H., Juul-Kristensen, B., Strøyer, J. et al. (Denmark)

Low back pain and neuromuscular functions in female administrative personal and nurses: local results from the NEW studies.
Thomas Läubli, T., Schenk, P., Spillmann, S. et al. (Switzerland)

Neuromuscular assessment in Elderly Workers from 4 EU countries with and without work related musculoskeletal disorders: Working conditions and muscle activation -The NEW-study.
Sjøgaard, G., Hermens, H., Sandsjö, L. et al. (Denmark)

Effects of a myofeedback training on muscle activation, pain and disability.
Vollenbroek-Hutten, M., Voerman, G., Sandsjo, L. et al. (The Netherlands)

Future perspectives and challenges in neuromuscular assessment using surface EMG.
Merletti, R., Pozzo, M. Farina, D. et al. (Italy)

Oral session o8:
Functional assessment
[9:00-10:30]
Room F3
Chairs: Balagué, F. & Punnett, L.

A prospective evaluation of physical examinations of the low back in occupational medicine
An Van Nieuwenhuyse, Danièle Pirenne, An Leys, Lydia Moors et al. (Belgium)

Self-assessed Physical Capacity by Visual Analogue Scales.
Jesper Strøyer, Christian Hye-Knudsen, Morten Essendrop et al. (Denmark)

Utility of restricted neck movement as a diagnostic criterion in case definition for neck disorders.
Isabel Reading, Karen Walker-Bone, Keith T Palmer et al. (UK)

Differences in activation patterns of multifidus and longissimus muscles in back extension exercises – conclusions with regard to different function.
Ingo Bradl and Falk Mörl (Germany)

Workrelated neck and shoulder pain – a new perspective.
Susie Riddoch, Jeff Summers, Bruce Taylor (Australia)

Oral session o9:
Upper limb disorders
[9:00-10:30]
Room F5
Chairs: Bongers, P. & Bao, S.

Work with elevated arms and supraspinatus tendinopathy visualized by MRI: Evidence for an exposure-response relationship.
Susanne Wulff Svendsen, John Gelineck, Svend Erik Mathiassen et al. (Denmark)

Specific shoulder disorder vs. non-specific shoulder pain; differences in determinants.
Helena Miranda, Eira Viikari-Juntura, Erkki Nykyri et al. (Finland)

Which measures for evaluation of rehabilitation results in chronic epicondylitis?
Tuomo Pienimäki, Tuula Tarvainen, Pertti Siira et al. (Finland)

Natural Course of Shoulder Tendinitis in a Working Population.
Barbara Silverstein, Eira Viikari-Juntura, Z Joyce Fan et al. (USA)

Effects of wrist deviation and forearm rotation on discomfort.
Abid Khan, Timothy Gallewey and Leonard O'Sullivan (Ireland)

Exposure-response relation for wrist/hand disorders.
Gert-Åke Hansson, Kerstina Ohlsson, Istvan Balogh et al. (Sweden)

Oral session o10:
Carpal tunnel and nerve entrapment
[9:00-10:30]
Room F7
Chairs: Riihimäki, H. and Rempel, D.

Risk factors of ulnar nerve entrapment at the elbow in repetitive work.
Alexis Descatha, Annette Leclerc, Jean-François Chastang (France)

Pre-Placement Nerve Testing for Carpal Tunnel Syndrome: Is it Cost Effective?
Alfred Franzblau, Robert A. Werner, Joanne Yihan (USA)

Incidence of Carpal Tunnel Syndrome in a General Population in France in 2002.
Yves Roquelaure, MC. Pelier-Cady, C. HA et al.(France)

Prevalence of Median Nerve Related Symptoms and Signs in a Cohort at Baseline.
Kurt T. Hegmann, Arun Garg, Jacqueline Wertsch et al. (USA)

Risk factors for carpal tunnel syndrome: preliminary results from an Italian multicentre case-control study.
Mattioli S., Fierro M., Baldasseroni A., et al. (Italy)

Relationship between repetitive work and the prevalence of carpal tunnel syndrome in part-time and full-time female supermarket cashiers: a quasi experimental study.
Roberta Bonfiglioli, Silvia Venturi, Cristiana Fiorentini et al. (Italy)

Coffee break
[10:30-11:00]

Invited lectures C:

[11:00 –12:30]

Auditorium Maximum

Chairs: Hagberg, M. & Sjøgaard, G

No session

No session

No session

Keynote 4:

**Integration of central and peripheral pain
mechanisms in prevention**

Prof. S. Mense, University of Heidelberg, Germany

Keynote 5

Prevention of WRMSD due to stress

Prof. Tores Theorell, Karolinska Institutet, Sweden

Lunch

[12:30-13:45]

Interactive poster session 15:

Workplace intervention

[13:45-14:15]

Room: Auditorium Maximum

Chairs: Balagué, F. & Burdorf, A.

The application of the QEC system to a motor manufacturing process.

Guangyan Li and Geoff David (UK)

Evolution of musculoskeletal disorders (MSD) among supermarket cashiers before and after redesign of their workstations (Phases 1 and 2).

Christophe Chaney, Janick Le Pache, Christine Aucour et al. (France)

The "Tools For Modified Work" Project-Phases 2 and 3: Implementation Evaluation and Revision of Workplace Strategies and Decision Aid Tools.

Susan R Stock, Raymond Baril, Zohra Derfoul et al. (Canada)

Improving posture in the ambulance patient compartment.

Jeremy Ferreira and Dr. Sue Hignett (UK)

Preventing WRMSD among university workers in Mexico.

J. Nieves Serratos-Perez, M. Carmen Negrete-Garcia and Margarita Arenas-Guzman (Mexico)

Interactive poster session 16:

Diagnosis and characterization of WRMSD

[13:45-14:15]

Room: F3

Chairs: Gold, J. & Aaras, A.

Multistep diagnosis of musculoskeletal disorders for routine physical examination in occupational health practice.

Gustav Caffier (Germany)

Diagnostic methods used by insurance doctors in the evaluation of employees with upper extremity disorders.

Patricia Dekkers, Noks Nauta (The Netherlands)

Responsiveness of the « Physical Work Performance Evaluation ».

Bruno Brassard and Marie-José Durand and Patrick Loisel (Canada)

Co-ordination of trunk muscles during gait: normative values.

Christoph Anders, Heiko Wagner, Christian Puta et al. (Germany)

Quantitative ultrasound tissue characterization in shoulder and thigh muscles.

Pernille Kofoed Nielsen, Bente Rona Jensen, Tron Darvann et al. (Denmark)

Tenderness in muscles and spinous processes among Workers and Patients.

Minori Nakata, Per-Olof Eriksson, Ulrika Aasa et al. (Sweden)

Interactive poster session 17:

Low back and arthrosis

[13:45-14:15]

Room: F5

Chairs: Luttmann, A. & Mairiaux, P.

Studies on low back pain in Russia: problems and perspectives of international cooperation.

Lilia Fatkhutdinova, Nail Amirov, Raphael Masschelein (Russian Federation)

EPILIFT – An epidemiological study on lumbar diseases and the exposure to object handling and postural load.

Barbara Schumann, Annekatrin Bergmann, Oliver Linhardt et al. (Germany)

Back pain among physiotherapists. Are muscle strength and general fitness factors?

Darja Rugelj, Polona Palma (Slovenia)

Impact of Long-Term Physical Exposure of Workers' Health.

Kermit Davis, Kari Dunning, Amit Bhattacharya et al. (USA)

Interactive poster session 18:

Health care

[13:45-14:15]

Room: F7

Chairs: Loisel, P. & Hignett, S.

Effectiveness of a health education program on patient handling techniques in a group of nurses and nursing aides.

Stefano Porru, Angela Carta, Paola Paglierini et al. (Italy)

Work-Related Musculoskeletal Injury in UK Physiotherapists.

Warren Glover, Claire Sullivan and Jan Hague (UK)

Psychophysical assessment of care-giving techniques in moving a client upward in the bed.

Asami Tatsumi, Yuichiro Ono, Toshihiko Imaeda et al. (Japan)

Prevention of Musculoskeletal Accidents at a Portuguese Hospital: Preliminary Results.

Teresa Cotrim, Fátima Ramalho, Maria João Xavier et al. (Portugal)

Back muscle response to sudden trunk loading can be modified by training among health care workers.

Mogens Theisen Pedersen, Morten Essendrop, Jørgen H. Skotte et al. (Denmark)

An international comparison of work-related musculoskeletal problems and related factors among ambulance personnel.

Minori Nakata, Yuka Noborisaka, Ulrika Aasa et al. (Sweden)

Short break

[14:15-14:30]

Minisymposium m5 (part I):

Duration of computer use and MSD risk
[14:30 – 16:00]

Auditorium Maximum

Chairs: Andersen, J.H. & Mikkelsen, S.

Data collection using software, email and internet in the PROMO study among office workers.

Ijmker S, Blatter B, van der Beek, Bongers P, van Mechelen W. (The Netherlands)

Factors influencing self-reported computer use compared to objectively measured computer use in the NUDATA study.

Mikkelsen S, Vilstrup I, Andersen JH. (Denmark)

Job differences in computer usage: typing, clicking and viewing the screen.

Douwes M, Blatter B, de Kraker H. (The Netherlands)

Shedding light on risk associated with gender in computer work.

Vilstrup I. (Denmark)

Is it possible to establish a threshold for time using a mouse or a keyboard? From the NUDATA-study.

Andersen JH, Mikkelsen S. (Denmark)

Monitoring of keystrokes and mouse clicks in an ergonomic intervention study among VDU workers.

Toivonen R, Viikari-Juntura E. (Finland)

Oral session 011:

Low back pain and knee pain
[14:30-16:00]

Room F3

Chairs: Frings-Dresen, M. & Jäger, M.

A prospective cohort study to identify risk factors for low back pain in occupational settings: results after one year of follow-up.

An Van Nieuwenhuysse, Pierre-René Somville, Danièle Pirenne et al. (Belgium)

Predictive value of on-site observations on the occurrence of low back pain in a cohort of young, pain free, workers.

Pierre-R. Somville, An Van Nieuwenhuysse, Danièle Pirenne et al. (Belgium)

Criteria for the Work-relatedness of Low Back Pain. Part I: development of the criteria.

Judith Kuiper, Paul Kuijer, Lex Burdorf et al. (The Netherlands)

Physical, psychosocial and psychological factors in predicting short- and long-term low back pain and resulting sick leave.

Gheldof-Els, Vinck Jan, Vlaeyen Johan (Belgium)

Minisymposium m6:

Low Back Pain in Schoolchildren
[14:30 - 16:00]

Room F5

Chairs: Macfarlane, G. & Balagué, F.

Introduction: Low back pain in children: is there a problem?

Dr. Federico Balague (Switzerland)

Risk factors for low back pain in children: developmental disorders.

Dr. Rob de Bie (The Netherlands)

Risk factors for low back pain in children: ergonomic factors.

Prof. Peter Buckle (UK)

Risk factors for low back pain in children: psychosocial factors

Dr. Gareth Jones (UK)

Is low back pain in children related to low back pain as an adult?

Prof. Gary J Macfarlane (UK)

Summary of current knowledge and way forward

Dr. Federico Balague (Switzerland)

Minisymposium m7 (part I):

Randomized trials for RTW interventions including a workplace component
[14:30 - 16:00]

Room F7

Chair: Loisel, P.

Evidence based practice for RTW-programs - A challenge.

Lindström, I. (Sweden)

Two successive steps in return to work program development, implementation and assessment for sub-acute occupational back pain in Quebec.

Loisel, P., Durand, MJ., Vacon, B. et al. (Canada)

Participatory Ergonomics for workers on sick leave due to low back pain: results of a randomised controlled trial.

Anema, JR, Steenstra, IA., Bongers, PM. et al. (The Netherlands)

Graded activity for workers on sick leave due to low back pain results of a trial.

Steenstra, IA., Anema JR., Bongers, PM. et al. (The Netherlands)

Effects of an ergonomic intervention on return-to-work following a musculoskeletal disorder.

Evanoff, B., Grayson, D., Bohr, P. et al. (USA)

Tea Break

[16:00-16:30]

Minisymposium m5 (part II):

Duration of computer use and MSD risk

[16:30 – 18:00]

Chairs: Andersen, J.H. & Mikkelsen, S.

Ergonomic and psychosocial factors

A randomized controlled trial of postural instructions among computer users.

Gerr, F. et al. (USA)

Work-related predictors for incident neck pain and ergonomic intervention among office employees with video display work.

Ketola R, Toivonen R, Viikari-Juntura E. (Finland)

The role of ergonomic and psychosocial risk factors in pain reporting from the neck and upper extremity. From the NUDATA-study.

Kryger, A., Mikkelsen, S. and Andersen, JH. (Denmark)

Associations between psychosocial stress and MSDs among computer users

Gerr, F. et al. (USA)

Oral session 012:

Intervention I

[16:30-18:00]

Room F3

Chairs: Sjøgaard, G & Itani, T.

Workers' disability: what do we know about workplace interventions ? A review of the literature.
Marie-José Durand, Nicole Vézina, Patrick Loisel et al. (Canada)

Intervention on risk factors for pain related disability – A randomised study.

Poul Frost, Jens Peder Haahr and Johan Hviid Andersen (Denmark)

A Pilot Project: The Improvement of Local Muscular Workloads in Thailand Industries.
Tanavadee Khuvasanont, Sudthida Krungkrai Wong, and Toru Itani (Thailand)

Training for adequate gestures at a specific workstation.

Nathalie Cock, Caroline Pirotte et Jacques Malchaire (Belgium)

The Effect of Ergonomic Workstation Changes on Workers' Reported Outcomes in Clothing Plants.

Julianne Natale, Richard Wells, Sue Ferrier et al. (Canada)

Oral session 013:

Exposure Assessment

[16:30-18:00]

Room F5

Chairs: Tornqvist, E. & Marras, W.

Manual Tasks Risk Assessment tool (ManTRA).
Robin Burgess-Limerick, Roxanne Egeskov, Clare Pollock et al. (Australia)

Does instantaneous peak load reflect overall loading?

Shrawan Kumar (Canada)

Assessment of specific demands in physically demanding occupations.

Monique H.W. Frings-Dresen, Jurriaan Bos, Eric Mol et al. (The Netherlands)

An Approach to Analyzing Mechanical Exposure Levels for the Low Back at a Production System Level.

Silvia Pascual, Mardy Frazer, Richard Wells et al. (Canada)

Further Development of the Quick Exposure Check (QEC).

Valerie Woods, Geoff David, and Peter Buckle (UK)

Postures and movements in line-based and parallel motor assembly systems.

Gunnar Palmerud, Mikael Forsman, Svend Erik Mathiassen et al. (Sweden)

Minisymposium m7 (part II):

Randomized trials for RTW interventions including a workplace component

[16:30 - 18:00]

Room F7

Chair: Loisel, P.

A randomized, controlled trial of case management services to overcome barriers to work related upper extremity disorders.

Feuerstein, M. and Shaw, W. (USA)

Early workplace intervention for employees with musculoskeletal-related absenteeism: A prospective controlled intervention study.

Bengt B. Arnetz, Berit Sjögren, Berit Rydén, and Roland Meisel (Sweden)

The effectiveness of back schools for occupational low back pain; short-term results of a randomized controlled trial.

Heymans, MW., de Vet, HC., Bongers, PM. et al. (The Netherlands)

Comments of Dr. Van Tulder

Poster exhibition

[18:00-18:30]

Oral session 014:
Surveillance and costs
[9:00-10:30]
Auditorium Maximum
Chairs: Burdorf, A. & Riihimäki, H.

The Economic Burden of Neck-Shoulder and Low-Back Disorders in Sweden from 1996 to 2001.
Johan Liwing, Christina Wiktorin, Teresia Nyman et al. (Sweden)

Epidemiological Surveillance of Musculoskeletal Disorders in the Pays de la Loire Region Using the SALTSA Method.
Yves Roquelaure, C. Ha, M. Sauteron et al. (France)

Is the occurrence of musculoskeletal disorders predictable? A case study in a large shoe factory.
Yves Roquelaure, Jean Mariel, Annette Leclerc et al. (France)

Integrating health costs within production economics.
Maurice Oxenburgh, Patrick Neumann and Jörgen Winkel (Sweden)

Predicting mechanical exposures in future car disassembly systems.
Karolina Kazmierczak, Jørgen Winkel, Svend Erik Mathiassen et al. (Sweden)

Orals session 015:
Intervention II
[9:00-10:30]
Room F3
Chairs: Winkel, J. and Loisel, P.

Is the efficiency of task rotation similar among symptomatic and non-symptomatic workers?
Tatiana de Oliveira Sato and Helenice Jane Cote Gil Coury (Brazil)

Changes in WMSD Risk Factors and Burden with Implementation of an Ergonomic Policy.
Donald Cole, Michael Manno, Sheilah Hogg-Johnson et al. (Canada)

Prevention strategy in four stages for the risk of musculoskeletal disorders.
Alain Piette, Nathalie Cocket, Jacques Malchaire (Belgium)

Prevention of MSD in meat cutters - lessons learned from a Swedish intervention project.
Göran M. Hägg and Kjerstin Vogel (Sweden)

Participatory Design Project Management : Addressing Production Effectiveness for WMSD Prevention The Case of the Carving Line of a Duck Slaughterhouse.
Fabien Coutarel, Bernard Dugue, François Daniellou (France)

Oral session 016:
EMG
[9:00-10:30]
Room F5
Chairs: Martin, B. & Luttmann, A.

The influence of intermittent myofeedback schedules on muscular learning.
Gerlienke Voerman, Leif Sandsjö, Karin Groothuis et al. (The Netherlands)

Neck-shoulder muscle load and muscle fatigue during prolonged overhead work.
Jan Seghers, Arthur Spaepen and Elke De Waele (Belgium)

Muscular Strain and Fatigue at Office Work.
Alwin Luttmann, Hannegret Kylian, Klaus-Helmut Schmidt et al. (Germany)

Relationship between EMG and workstation setup.
Dwayne Van Eerd, Anjali Mazumder, Sheilah Hogg-Johnson et al. (Canada)

Evaluation of sustained low-level muscle activity in three occupational groups.
Tove Østensvik and Kaj Bo Veiersted (Norway)

An Experimental Study on Muscle Tension Reaction Induced by Voice among Sign Language Interpreters.
Kazushi Taoda, Kimiko Tomioka, Teruyo Kitahara et al. (Japan)

Oral session 017:
Rehabilitation in low back pain
[9:00-10:30]
Room F7
Chairs: Bongers, P. & Frings-Dresen, M.

Exercise reduces sick leave in patients with non-acute non-specific low back pain, a meta-analysis.
Jan Kool, Stefan Bachmann, Peter Oesch et al. (Switzerland)

Activity-oriented rehabilitation reduces days lost from work in non-acute non-specific low back pain, a randomized controlled trial.
Jan Kool, Peter Oesch, Stefan Bachmann et al. (Switzerland)

Six-month follow-up of a randomised controlled pilot study of a work rehabilitation programme.
Kathrin Meyer, Jaap Fransen, Hansjörg Huwiler et al. (Switzerland)

Evaluation of effective return-to-work treatment programmes for sick-listed patients with non-specific MSDs: a systematic review.
Eline M. Meijer, Judith K. Sluiter and Monique H.W. Frings-Dresen (The Netherlands)

Comparison of AIR Stretching Technique and Static Stretch Technique on Hamstring Flexibility.
Viviana Gessaga, Nicoletta Sias, Giovanni Molteni et al. (Italy)

Coffee Break
[10:30-11:00]

Invited lectures D:

No session

No session

No session

[11:00 –12:30]

Auditorium Maximum

Chairs: Riihimäki, H. & Balagué, F.

Keynote 6:

How can we better understand established factors of risk and protection by research on function of neuromuscular system, joint and disc?

Prof. F. Lehmann-Horn, University Ulm, Germany

Keynote 7

Neuromuscular Disorders: Knowledge of Motor Control as well as Motor Learning Principles is a “must” for the interdisciplinary rehabilitation team.

L. Rutz-LaPitz, PT. Rheinburg – Klinik, Switzerland

Lunch

[12:30-13:45]

Interactive poster session 19:

WRMSD in the industry

[13:45-14:15]

Auditorium Maximum

Chairs: Franzblau, A. & Punnett, L.

Musculoskeletal symptoms and disability among workers in Mumbai, India.

Ira Madan, Jason Poole and David Coggon (UK)

Psychosocial risk factors and low back pain among navigation officers of service vessels.

Mohammad Ali Hassanzadeh, Jebrail Nasl Serajil (Sweden)

The impact of musculoskeletal related absenteeism in shipyard industry.

Eleni C. Konstantinou, Dimitra Foti, Evangelos C. Alexopoulos (Greece)

Static work and its effect on muscles in the shoulder and neck. A review of morbidity in arc welders.

Roland Kadefors (Sweden)

Interactive poster session 110:

WRMSD and computer use

[13:45-14:15]

Room F3

Chairs: Hagberg, M. & Ono, Y.

Are self-reported recommended ergonomic conditions predictors for reduced musculoskeletal symptoms? – The 'BIT'-follow-up study on office workers.

Birgit Juul-Kristensen and Chris Jensen (Denmark)

Introduction of laptop computers in a working environment.

Guri Stoknes Hafting, Morten Wærsted and Stein Brudal (Norway)

Human-computer interface: Prevention of carpal tunnel syndrome.

Jinky Leilanie Lu (Philippines)

Physical and psychosocial risk factors for musculoskeletal disorders of the shoulders among call center operators of an air service company in Brazil.

Lys E. Rocha, Debora M.R. Glina, Jayme A. R. Vianna et al. (Brazil)

Postures and movements among operators performing the same work task with different computer equipment.

Inger Arvidsson, Gert-Åke Hansson and Staffan Skerfving (Sweden)

Upper Extremity Pain and Computer Use among Engineering Graduate Students: An Internet Based Survey.

David Rempel, Eric Schlossberg, Sandra Morrow et al. (USA)

Interactive poster session 111:

Risk evaluation and prevention

[13:45-14:15]

Room F5

Chairs: Viikari-Juntura, E. & Blatter, B.

Modelling the preventive effectiveness of pre-placement screening for carpal tunnel syndrome.

Bradley Evanoff, Steve Kymes, Bryce Sutton (USA)

The use of individual participant data (IPD) for examining heterogeneity in a meta-analysis of biomechanical workplace risk factors and low back pain.

Lauren Griffith, Harry Shannon, Richard Wells, Donald Cole et al. (Canada)

The validity of a self administered questionnaire for assessment of postural load and duration of computer use.

Judith Heinrich, Birgitte Blatter and Paulien Bongers (The Netherlands)

Estimation of prevalence ratios in ergonomic studies.

James Deddens and Martin Petersen (USA)

Different risk factors for musculoskeletal complaints and musculoskeletal sickness absence.

Helma Uzelberg and Alex Burdorf (The Netherlands)

Oral session 019:

Nurses and gender

[13:45-14:15]

Room F7

Chairs: Itani, T. & Frings-Dresen, M.

Assessment of physical workload in nurses.

Susanne Spillmann, Juergen Held, Thomas Laeubli et al. (Switzerland)

Gender-based estimates of underreporting of Workers' Compensation lost-time claims for musculoskeletal disorders of the neck, back and upper extremity: A comparison of 1998 Quebec Health Survey and Quebec CSST workers' compensation data.

Susan Stock, France Tissot, Karen Messing et al. (Canada)

Are adverse psychosocial aspects at work predictors for upper and lower extremity MSD's in nurses?

Judith K. Sluiter and Monique H.W. Frings-Dresen (The Netherlands)

Short break

[13:45 – 14:15]

Minisymposium m8 (part I):
Methodological issues in prospective studies
 [14:30-15:30]
 Auditorium Maximum
 Chair: Silverstein, B.

Methodological issues in prospective studies - NIOSH
 wmsd research consortium
Barbara Silverstein et al. (USA)

Health Outcomes Assessments in Epidemiological
 Studies of Musculoskeletal Disorders, Biases and
 Confounders
Kurt Hegmann, Matthew S. Thiese, Arun Garg et al,
(USA)

Incidence and persistence of Carpal Tunnel Syndrome
 (CTS) and Symptoms suggesting CTS in active workers
Eira Viikari-Juntura, Barbara Silverstein, Z Joyce Fan et
al. (USA)

Minisymposium m9 (part I):
Physical activity in the prevention of WRMSD
 [14:30-15:30]
 Room F3
 Chairs: Sjøgaard, G.

Physical activity in the prevention of musculoskeletal
 disorders.
Gisela Sjøgaard, Ernst Albin Hansen, Laila Birch et al.
(Denmark)

Perspective on human health -an exercise scientist's
 view.
Michael Kjær (Denmark)

State of the art on the effect of physical activity
 programs at the worksite.
Allard J. van der Beek (The Netherlands)

Oral session o18:
Trapezius myalgia
 [14:30-15:30]
 Room F5
 Chairs: Westgaard, R. & Gold, J.

Are changes in pain as a result from myofeedback
 training related to changes in muscle activation
 patterns in patients with work related
 musculoskeletal disorders.
Miriam Vollenbroek-Hutten, Hermie Hermens,
Gerlienke Voerman (The Netherlands)

In-vivo evidence of increased anaerobic metabolism in
 patients with chronic trapezius myalgia.
Lars Rosendal, Britt Larsson, Michael Peolsson et al.
(Denmark)

Slow recovery of circulatory responses following low-
 grade stress.
Kristian B. Nilsen, Rolf H. Westgaard, Lars J. Stovner et
al. (Norway)

Nocturnal trapezius muscle activity and shoulder and
 neck pain.
Paul J. Mork and Rolf H. Westgaard (Norway)

Minisymposium m10 (part I):
Gender differences in the risk of WRMSD
 [14:30-15:30]
 Room F7
 Chairs: van der Beek, A.

Introduction.
Allard van der Beek (The Netherlands)

Gender segregation in the labour market and
 exposure to awkward work postures.
Ola Leijon (Sweden)

Gender differences in self-reported physical and
 psychosocial exposures in jobs with female and male
 workers.
Allard van der Beek (The Netherlands)

Standing working postures, pain and pain-pressure
 threshold among women and men in Québec.
Karen Messing (Canada)

Physical exposure and disorder prevalence, among
 males and females with identical repetitive industrial
 tasks.
Catarina Nordander (Sweden)

Tea break
 [15:30-16:30]

Minisymposium m8 (part II):

Methodological issues in prospective studies

[16:00-17:00]

Auditorium Maximum

Chair: Silverstein, B.

The Monitoring of Load Moment Exposure in the Workplace.

Marras, WS. and Lavender, SA. (USA)

Multiple-Task Jobs and Job Rotations: Some Considerations for Job Exposure Assessment
Arun Garg, Steven Moore and Kurt Hegmann (USA)

A detailed force exposure quantification method for prospective epidemiological studies.
Stephen Bao, Peregrin Spielholz, Ninica Howard and Barbara Silverstein (USA)

Analytic issues in a prospective study of work-related musculoskeletal disorders
Susan Burt and James Deddens (USA)

Minisymposium m9 (part II):

Physical activity in the prevention of WRMSD

[16:00-17:00]

Room F3

Chairs: Sjøgaard, G.

Work-related physical activity beyond physical capacity: a risk factor for musculoskeletal disorders.
Lena Karlqvist (Sweden)

A successful rehabilitation program for low back injured workers, but without significant impact on sick leave.
Phillippe Mairiaux (Belgium)

Discussion on future needs and plans, e.g. Questionnaires and objective measures for quantification of physical activity and -capacity
Gisela Sjøgaard

Interactive poster presentation i12:

Dentists and scholars

[16:00-17:00]

Room F5

Chairs: Huwiler, J. & Graf, M.

Occupational hand loading and hand osteoarthritis among dentists.
Svetlana Solovieva, Hilka Riihimäki, Tapio Vehmas et al. (Finland)

Does Proprioceptive derivation concept help to reduced muscular discomfort?
Montakarn Chaikumarn (Sweden)

Work-related musculoskeletal disorders among dentists.
Greice. B. Gobbi and Neusa M. C. Alexandre (Brazil)

Musculoskeletal pain and insomnia symptoms in older adolescents.
Kristian Gould, Nina Østerås, Kaj Bo Veiersted (Norway)

Occupational and individual factors related to hand/wrist complaints in dentists.
Evangelos C. Alexopoulos, Christianna Stathi, Fotini Charizani (Greece)

Neck and shoulder disorders in some adolescents of Khuvsgul province in mongolia
M.Nansalmaa, D.Oyunchimeg, B.Odbayar et al. (Mongolia)

Minisymposium m10 (part II):

Gender differences in the risk of WRMSD

[16:00-17:00]

Room F7

Chairs: van der Beek, A.

Gender segregated workplaces and ergonomic conditions: consequences of musculoskeletal health for women and men?
Lena Karlqvist (Sweden)

Exposure to work-related risk factors during pregnancy: a longitudinal survey on women, work and health.
Gonnie Klabbers (The Netherlands)

Gender differences in the relations between work-related physical and psychosocial risk factors and musculoskeletal disorders: a systematic review.
Wendela Hoofman (The Netherlands)

To what extent can the association between female gender and musculoskeletal disorders be explained by occupational exposures?
Laura Punnett (USA)

Poster exhibition

[17:00-17:30]

Social Evening

[18:00-00:00]

Invited lecture E:
[9:00 –10:30]
Auditorium Maximum
Chairs: Leclerc, A. & Krueger, H.

No session

No session

No session

Keynote 8:
How to achieve evidence based integrative approaches towards prevention and rehabilitation ?
What can we learn from successful case studies?
Dr. E. Schonstein, University of Sydney, Australia

Keynote 9:
How can interventions on work-related musculoskeletal disorders successfully be integrated into the business world?
Prof. J. Dul, Rotterdam School of Management, The Netherlands

Coffee break
[10:30-11:00]

Minisymposium m11:
Load estimation
 [11:00-12:30]
 Auditorium Maximum
 Chair: Hartmann, B.

Analysis of Low-Back Load during Occupational Work: The Dortmund Lumbar Load Studies – the DOLLYs.
Matthias Jäger, Claus Jordan, Andreas Theilmeyer et al. (Germany)

Whole-shift monitoring of mechanical loads applying a newly developed ambulatory measurement system.
Rolf Ellegast and Ingo Hermanns (Germany)

Load estimation in construction field studies - methods and experiences.
Bernd Hartmann and Sonja Werner (Germany)

Application of key-indicator-methods for risk assessment for lifting, holding and carrying and for pushing and pulling.
Gustav Caffier, Ulf Steinberg and Falk Liebers (Germany)

Minisymposium m12:
Hospital ergonomics
 [11:00-12:30]
 Room F3
 Chair: Hignett, S.

Postural analysis of three nursing tasks.
Sue Hignett and Emma Crumpton (UK)

Organisational check list for patient handling
Emma Crumpton and Sue Hignett (UK)

DINO - A direct observation instrument for assessment of nurses' patient transfer technique.
Christina Johnsson, Katarina Kjellerg, Anders Kjellberg et al. (Sweden)

A psychophysical comparison of three patient handling methods, when assisting the geriatric patient to move from wheelchair to bed.
Leena Tamminen-Peter (Finland)

MAPO index for risk assessment of patient manual lifting in hospitals and its relationship with acute low back pain.
Natale Battevi and Olga Menoni (Italy)

Patient Comfort and Satisfaction in a "No Lift" Environment.
Tamara James, Yeu-Li Yeung, Jennifer Lawson et al. (USA)

Oral session o20:
Muscle tissue oxygenation
 [11:00-12:30]
 Room F5
 Chairs: Hägg, G. & Viikari-Juntura, E.

Infrared thermography for examination of cutaneous circulation patterns in the dorsal hand of office workers.
Judith E. Gold, Martin Cherniack, and Bryan Buchholz (USA)

Muscle tissue oxygenation is higher during resting periods when dynamic versus intermittent static muscle activity is performed at corresponding time-tension protocols.
Pernille Vedsted, Anne Katrine Blangsted, Karen Sjøgaard et al. (Denmark)

Long-term muscle fatigue following low force static contraction is unrelated to tissue oxygenation and intramuscular pressure.
Anne Katrine Blangsted, Pernille Vedsted, Gisela Sjøgaard et al. (Denmark)

Tissue oxygenation and forearm wrist extension strength in subjects with and without tennis elbow.
Bente Rona Jensen, Pernille Kofoed Nielsen, Marianne Pilegaard et al. (Denmark)

Oral session o21:
Psychosocial factors in WRMSD
 [11:00-12:30]
 Room F7
 Chairs: Aaras, A. & Frings-Dresen, M.

Mechanical and Psychosocial Factors Predict the Onset of Knee Pain in the Workplace.
Gareth Jones, Elaine Harkness, Elizabeth Nahit et al. (UK)

Repeated perception of jobstress and low back pain.
Els Clays, Françoise Leynen, Rudolf Mak et al. (Belgium)

Association of specific work activities and psychosocial factors with neck and upper limb pain: results from a population study.
Rosie Lacey, Martyn Lewis and Julius Sim (UK)

Upper limb pain and its relation to psychological distress: A community-based postal survey
Keith Palmer, Mike Calnan, Jason Poole et al. (UK)

Snack
 [12:30-13:00]

Closing plenary session
 [13:00-14:00]
 Auditorium Maximum

Poster session p1:

**Exposure and prevention
Gallery G-Floor**

The role of physical capacity in the development of low back and neck/shoulder disorders in a working population.

Heleen Hamberg-Van Reenen, Geertje Ariens, Birgitte Blatter et al. (The Netherlands)

Key indicator method for risk assessment in manual material handling, Pt. 2: Pushing and Pulling.
Gustav Caffier, Ulf Steinberg and Falk Liebers (Germany)

Seating Posture measured using QEC.

John G Burrow, Vivienne Garden and Nichola McLarnon (UK)

Device for analysing grip forces during handling.
Rosimeire Padula and Helenice Gil Coury (Brazil)

Effects of Constraints on Postures in Glovebox Tasks.
Mohd Asyraf Che Doi and Christine M. Haslegrave (UK)

Participatory Ergonomic Intervention in Kitchen Work.
Irmeli Pehkonen, Hilikka Riihimäki, Leila Hopsu et al. (Finland)

Responding to Work-Related Musculoskeletal Disorders (WMSD) in Canada.
Donald C. Cole and Dwayne Van Eerd (Canada)

Poster session p2:

**Risk factors and health assessment
Gallery G Floor**

The Prognosis and the related factors of upper extremity musculoskeletal diseases in female telephone number service clerks.
Jaechul Song, Hyun-ju Kim, Soo-jin Lee, et al. (Korea)

Predictable Factors for Musculoskeletal Disorders Amongst Classical Musicians.
Navah Ratzon and Yael Kaufman-Cohen (Israel)

Elbow function in chronic lateral epicondylitis.
Tuomo Pienimäki, Pertti Siira, Heikki Vanharanta (Finland)

The pattern and determinants of widespread pain in the neck and upper limbs.
Keith Palmer, Karen Walker-Bone, Isabel Reading et al. (UK)

Work relatedness of MSDs in industrial workers.
Andrew DJ Pinder (UK)

Criteria for the Work-relatedness of Low Back Pain. Part II: application in occupational health care.
Paul Kuijer, Judith Kuiper, Lex Burdorf, (The Netherlands)