



BOLOGNA
ITALY
2 • 5
SEPTEMBER 2019

PREMUS 2019

10th International
Scientific Conference
on the Prevention of
Work-Related
Musculoskeletal
Disorders

**From research to evidence
based sustainable
interventions and practices**



PREMUS 2019 is a place where scientists and practitioners from different cultures and backgrounds meet and interact to promote research in this field

The Medieval atmosphere of the Conference Venue and the traditional hospitality of Bologna, with its Alma Mater Studiorum considered to be the oldest university in the Western world, will assist to make your stay fruitful and comfortable.

Palazzo Re Enzo
Piazza del Nettuno, 1 - Bologna - Italia





Welcome to PREMUS 2019, the 10th International Scientific Conference on the Prevention of Work-Related Musculoskeletal Disorders.

Musculoskeletal disorders and injuries are relevant conditions across life-course and the most common work-related diseases. They are the second most common cause of disability worldwide, measured by years lived with disability, with low back pain being the most frequent condition and osteoarthritis the most common joint disorders.

Challenges of managing an increased life expectancy and an ageing workforce put the occupational setting in a unique position to study significant predictors of musculoskeletal disorders and to develop preventive strategies.

A multidisciplinary scientific approach focusing on lifestyle, work-related biomechanical conditions and psychosocial factors is strategic for the development of evidence-based preventive measures.

High quality epidemiological studies, combining new technologies for exposure assessment and high-resolution diagnostic imaging, are desirable to improve our knowledge on the underlying biological mechanisms of musculoskeletal conditions and the dose-response relationship.

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Conference themes

Musculoskeletal diseases evidence based case definition in epidemiology, clinical practice and for evaluating causation in groups and individuals

Ageing, musculoskeletal health and work

Health-related work disability of the musculoskeletal system

Effective interventions to reduce musculoskeletal disorders and work disability

Rehabilitation/supportive conditions at work to improve work ability

Assessing exposure to risk factors for work-related musculoskeletal disorders

Occupational exposure limits to prevent work-related musculoskeletal disorders

Gender and musculoskeletal disorders



Local Organizing Committee

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Associate Clinical Professor
Department of Social & Preventive Medicine
University of Montreal School of Public Health
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Director Arthritis Research UK/MRC Centre for Musculoskeletal Health and Work,
MRC Lifecourse Epidemiology Unit, Southampton

WULFF SVENDSEN, SUSANNE, DENMARK

Department of Occupational Medicine
Regional Hospital West Jutland – University Research Clinic, Denmark



Keynote Speakers

BONFIGLIOLI ROBERTA, ITALY

Department of Medical and Surgical Sciences, University of Bologna

Roberta Bonfiglioli MD is Associate Professor of Occupational Medicine at the University of Bologna and Staff physician at the Unit of Occupational Medicine, Sant'Orsola Malpighi University Hospital in Bologna. Her research interests include diagnosis and prevention of work-related musculoskeletal disorders and peripheral neuropathy, occupational risk factors in the health care setting. Prof. Bonfiglioli is Chair of the "Scientific Committee on Musculoskeletal Disorders" of the International Commission on Occupational Health (ICOH) for the triennium 2018-2021, Chair of the Emiliano-Romagnola branch of the Italian Society of Occupational Medicine for the triennium 2019-2022 and currently degree program Director - Second Cycle Degree Program in Health Professions of Prevention Sciences at the University of Bologna.

CARISA HARRIS ADAMSON, USA

Assistant Professor, University of California, Director, UCSF/UCB Ergonomics Graduate Training Program, Richmond CA, USA

Carisa Harris Adamson, PhD, CPE is an Assistant Professor in the Department of Medicine at the University of California at San Francisco, and in the School of Public Health at the University of California at Berkeley. She is also the Director of the UCSF/UCB Ergonomics Research & Graduate Training Program and the Deputy Director of the Northern California Center of Occupational & Environmental Health. Dr. Harris and her team performs research in a variety of areas focused on understanding and preventing work related injuries and improving human performance, productivity and health. Her epidemiological research assesses and adjusts for healthy worker survivor bias in the assessment of physical, personal and work psychosocial factors associated with Carpal Tunnel Syndrome and subsequent work disability. Additionally, her team is developing and testing a variety of exposure assessment devices (wearables) for primary and secondary prevention purposes and performs various intervention studies on occupational tasks with high risk of musculoskeletal injuries, such as the implementation of passive exoskeletons in construction work.

JUDITH GOLD, SWEDEN

Centre for Musculoskeletal Research, Department of Occupational and Public Health Sciences, University of Gävle, Gävle, Sweden. Gold Standard Research Consulting

Judith E. Gold, ScD is an occupational epidemiologist, ergonomist, and electrical engineer. She is the founder of Gold Standard Research Consulting, providing epidemiology and data science/data analysis expertise to academic, non-profit (NGOs), and business clients. Most recently at the Centre for Musculoskeletal Research (CBF) in Gävle, Sweden, and prior to that at Temple University in Philadelphia, Pennsylvania, USA, her research has focused on the epidemiology of work-related musculoskeletal disorders (MSDs), with particular attention to biomarkers and physiological mechanisms. Dr. Gold is especially interested in the information that can be gleaned from concurrent assessments of biochemical and quantitative imaging biomarkers. She has been the recipient of government and industry-funded research grants, and has served as a consultant for WHO and OSHA.

KAREN MESSING, CANADA

Professeure émérite, Département des sciences biologiques et chercheure, centre de recherche CINBIOSE, UQAM Université du Québec, Montréal - Canada

Karen Messing is professor emerita of ergonomics in the Department of Biological Sciences at the University of Quebec at Montreal. Her research deals with applications of gender-sensitive analysis in occupational health and with constraints and demands of work in the service sector, especially the effects of prolonged static standing. In addition to 145 peer-reviewed scientific articles, she has published several books, including *One-eyed Science: Occupational Health and Working Women* (1998) and *Pain and Prejudice: What Science Can Learn about Work from the People Who Do It* (2014). She co-founded the Gender and Work Technical Committee of the International Ergonomics. She has received several awards including the Governor General of Canada's "Persons" Award for advancing the status of women (2009) and the William P. Yant Award from the American Industrial Hygiene Association (2014) for "outstanding work in industrial hygiene". In 2018 she was named one of 21 Montréal "inspiring citizens".

SARAH SHARPLES, UK

Horizon Digital Economy Research, Human Factors Research Group, University of Nottingham, Nottingham, United Kingdom

Sarah Sharples is Pro-Vice-Chancellor for Equality, Diversity and Inclusion for the University of Nottingham. Her work as a Professor of Human Factors has been applied to Transport, Healthcare and Manufacturing. She was President of the Chartered Institute of Ergonomics and Human Factors from 2015-16, and is on the Science Advisory Council for the UK Department for Transport. She is on the Council of the Engineering and Physical Sciences Research Council, and leads the national EPSRC Network Plus 'Connected Everything' which brings together communities including engineering, computer science and design to consider the future opportunities presented by Digital Manufacturing. She also leads the research project 'DigiTOP' which is developing tools and solutions to support the implementation of future digital manufacturing technologies. She is passionate about ensuring that we take a systems perspective to considering the role of and impact on people in all work to develop future technologies and solutions.

KAREN WALKER-BONE, UK

Director Arthritis Research UK/MRC Centre for Musculoskeletal Health and Work, MRC Lifecourse Epidemiology Unit, Southampton United Kingdom

Karen trained as an academic rheumatologist with a special interest in occupation and musculoskeletal pain in Southampton, funded by an Arthritis Research UK Clinical Research Fellowship. Karen is based at the MRC Lifecourse Epidemiology Unit in Southampton where she is Professor and Honorary Consultant in Occupational Rheumatology and Director of the Arthritis Research UK/MRC Centre for Musculoskeletal Health and Work. She leads the multidisciplinary Centre and coordinates a programme of work to find cost effective ways to reduce the burden of disability for work caused by musculoskeletal disorders. She was awarded an Honorary Fellowship of the Faculty of Occupational Medicine in 2013. She also chairs the multi-disciplinary BSR/BHPR Special Interest Group in work and health.



CME / EACCME | Continuing education

CME credits (ECMEC®s) by the European Accreditation Council for Continuing Medical Education (EACCME®) will be provided for full attendance at the conference.

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02.09.2019 - 8.00

03.09.2019 - 8.00

04.09.2019 - 8.00

05.09.2019 - 4.00

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Endorsements



ICOH
The International Commission
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IEA
International Ergonomics
Association



SIML
Società Italiana
di Medicina del Lavoro

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Scientific Programme

Sunday 1st September

6:00 PM - REGISTRATIONS OPENS

7:00-12:00 PM - WELCOME RECEPTION – COCKTAIL DINATOIRE – PALAZZO RE ENZO

Monday 2nd September

8:00 AM - REGISTRATIONS OPENS

8:30-9:15 AM - PLENARY SESSION - **Salone del Podestà**

Keynote

New technologies have enhanced the quality and availability of measures of biomechanical risk factors.

How can we keep workers' digital footprint under control?

Sarah Sharples - Horizon Digital Economy Research, Human Factors Research Group, University of Nottingham, Nottingham, United Kingdom

9:15-10:00 AM - PARALLEL SESSIONS

- **Symposium - Salone del Podestà**

Newly developed and redesigned key indicator methods for assessment of different working conditions with physical workloads. Aspects of background, objectivity, reliability and validity. PART I

Chair: André Klussmann

Presenters: Klussmann André, Liebers Falk, Serafin Patrick, Schust Marianne, Hartmann Bernd, Gebhardt Hansjürgen

- **Risk Assessment (Session 1) - Sala degli Atti**

Chair: Francesco Violante

What is the attributional fraction due to work for musculoskeletal disorders on a national level?

Van der Molen Henk

Proportion of upper extremity musculoskeletal disorders attributable to personal and occupational factors: Results from the French Pays de la Loire study

Nambiema Aboubakari

Music-specific and generic psychosocial stressors among performing musicians with various work arrangements

Laura Punnett

- **Special Session - Sala Re Enzo**

MSD among Immigrant workers and Ageing, MS Health and Work

Chair: Acran Salmen Navarro

Work-related musculoskeletal disorders preventive program on New York City vulnerable Immigrant working population: A Clinic / University - community participatory collaboration

Acran Salmen Navarro

Do work exposures help explain musculoskeletal disorder work absence health inequalities?

Stock Susan

Multisite musculoskeletal pain in migrants from the Indian subcontinent to the UK: A cross-sectional survey

Ntani Georgia

10:00-10:30 AM Coffee break

10:30-12:00 AM - PARALLEL SESSIONS**● Symposium - Salone del Podestà**

Newly developed and redesigned key indicator methods for assessment of different working conditions with physical workloads. Aspects of background, objectivity, reliability and validity. PART II

Chair: André Klussmann

Presenters: Klussmann, André, Liebers Falk, Serafin Patrick, Schust Marianne, Hartmann Bernd, Gebhardt, Hansjürgen

● MSD Case Definition and Surveillance (Session 1) - Sala Re Enzo

Chair: Roberta Bonfiglioli

A review of international programmes for the prevention and management of musculoskeletal disorders

Boocock Mark

The surveillance of musculoskeletal disorders in Italy: findings from the MALPROF System

Papale Adriano

Carpal tunnel syndrome as sentinel for detrimental occupational hand activities: a nationwide Danish cohort study

Tabatabaeifar Sorosh

Severity of carpal tunnel syndrome and manual work: findings from a case-control study

Mattioli Stefano

Twenty years of CTS surveillance among diverse occupational groups

Rosecrance John

Prognosis of patients with suspected carpal tunnel syndrome in relation to occupational mechanical exposure of the wrist and impaired median nerve conduction

Frost Poul

Occupational risk factors for surgically treated carpal tunnel syndrome – a prospective cohort study of 220,610 Swedish construction workers

Wahlström Jens

● Effective interventions to prevent MSD (Session 1) - Sala degli Atti

Chair: Laura Punnett

Using a mobile app to conduct process evaluation in a participatory ergonomics healthcare intervention

Chin Winnie

Effectiveness of the multi-component Dynamic Work intervention to reduce sitting time in office workers – results from a cluster randomised controlled trial

Renaud Lidewij

Controlling Vibration Exposure when Drilling into Concrete: Findings from Two Studies

Rempel David

Effectiveness of a vacuum lifting system in reducing spinal loads during airline baggage handling

Lu Ming-Lun

Work ability and vitality in coach drivers: a RCT to study the effectiveness of a self-management intervention during the peak season

Van Schaaik Art

Systematic Evaluation of Engineering Controls to Reduce Muscular Loading during Patient Handling Tasks

Kim Jay

Psychosocial effects of workplace exercise – A systematic review

Bordado Sköld Margrethe

POSTER SESSION (*Poster listed by identification number*) - **Sala del Quadrante***Chair: Andrea Farioli*

1. A multidisciplinary team to manage ergonomic hazard: Case report of a storekeeper with hand strain
Lim Joseph
2. Designing and making smart class board into automatic height adjustable and determine the effect on user body posture
Habibi Ehsanollah
3. The relationship between status ergonomic construction jobs and musculoskeletal disorders construction workers using check list NIOSH-CPWR
Habibi Ehsanollah
4. Musculoskeletal disorders, ageing and overweight in the workforce - a prospective cohort study
Gram Bibi
5. Relationship between depression and musculoskeletal disorders
Nakata Minori
6. Comparison of musculoskeletal symptoms in blue-collar and white-collar workers in the previous seven days - analysis stratified by age
Cardoso Viviane de Freitas
7. Influence of low and high cognitive loading on task precision during a 30-min tracking task in younger and older subjects
Florestan Wagenblast
8. The Swedish Work Environment Authority introduces medical checks for hand-intensive work
Lorén Kersti
9. The U.S. National Occupational Research Agenda for Musculoskeletal Health
Lu Ming-Lun
10. Effectiveness of workplace interventions in the rehabilitation of musculoskeletal disorders among workers with physical employment: Systematic review
Sundstrup Emil
11. The impact of office ergonomics intervention: a case study in 18 companies across Singapore
Rusli Noer Triyanto Rusli
12. Sit-stand tables in overweight and obese computer workers: investigation of a comfortable pre-set time
Barbieri Dechristian
13. Evaluation of the Current Advice for Return to Activities and Work after Total Knee Arthroplasty
Straat A. Carlien
14. Supervisor's roles and responsibilities in preventing prolonged disability in workers with musculoskeletal disorders
Nastasia Iuliana
15. Review of research, policy and practice on prevention of work-related Musculoskeletal Disorders (MSDs)
Sas Katalin
16. An unobtrusive wrist orthotic for carpal tunnel syndrome intervention
Luong Pauline
17. Comparison of municipal bus driver whole-body vibration exposures when operating a bus with an active, passive and static suspension bus seat
Peter W. Johnson

12:00-AM – 1:30 PM - PARALLEL SESSIONS**● Symposium - Salone del Podestà**

Ergonomic Assessment Work-Sheet (EAWS): structure, application and validation in the industrial sector

Chair: Gabriele Caragnano

Presenters: Gabriele Caragnano, Fabrizio Caruso, Roberta Bonfiglioli, Martin Haselhuhn, Lidia Ghibaudo

● MSD Case Definition and Surveillance (Session 2) - Sala Re Enzo

Chair: Alexis Descatha

Personal, biomechanical, psychosocial and organizational risk factors for carpal tunnel syndrome: a Structural Equation Modelling Approach

Yves Roquelaure

Correlations between pain in the back and neck/upper limb in the European Working Conditions Survey

Rizzello Emanuele

Work-Related Musculoskeletal Disorder Workers' Compensation Claims of the Low Back, Shoulder, Hand/Wrist, Knee, Elbow and Neck in the In-Home Care Industry in Washington State, 2006-2016

Howard Ninica

Predictors of Self-Reported Work-Preventing Upper Extremity Symptoms in Canadian Bovine Veterinarians

Reist Robyn

Disc herniation with radiculopathy: epidemiologic and economic indicators of compensation in the Pays de la Loire region

Fouquet Natacha

Using occupational injury and hazard surveillance in the development of safety interventions for professional loggers

Rosecrance John

Distribution of age, sex, and occupation of carpal tunnel syndrome patients using national health insurance data

Kim Young-Ki

● Effective interventions to prevent MSD (Session 2) - Sala degli Atti

Chair: Stefania Curti

Synthesizing the evidence on workplace practices and policies to prevent MSD

Irvin Emma

Results of a Participatory Ergonomics Intervention With Wearable Technical Measurements of Physical Workload in the Construction Industry

Brandt Mikkel

A sustainable participatory approach to reducing musculoskeletal hazards in long term care facilities

Van Eerd Dwayne

New strategies to commit subcontracting managers in MSD prevention

Aude Cuny-Guerrier

Does training duration of a worksite-supervised adapted physical activity program affect trunk functional capacities and pressure pain sensitivity over the low back among vineyard-workers?

Balaguier Romain

Smart workwear system with real-time vibrotactile feedback for improving postural behaviour in industry

Yang Liyun

Optimizing ergonomic working conditions by using a participatory program: the design of a goods-to-person picking system in a Belgian company

Costers Ruth

1:30-2:30 PM Lunch time

2:30 – 4:30 PM - PARALLEL SESSIONS

● **Symposium - Salone del Podestà**

Title: Job exposure matrices for biomechanical factors: from validation to application

Chair: Alexis Descatha; Co-Chairs: Bradley A Evanoff, Johan H Andersen

Presenters: Laure Ngabirano, Ann Marie Dale, Marc Fadel, Bradley A Evanoff, Annett Dalboge, Alexis Descatha

● **MSD Case Definition and Surveillance and Work Ability (Session 3) - Sala Re Enzo**

Chair: Stefano Mattioli

Validation of a conceptual model for shoulder pain risk factors

Bodin Julie

Work above shoulder level and shoulder disorders – a systematic review

Wærsted Morten

Longitudinal analysis of shoulder kinematics and muscle EMG in patients surgically treated for rotator-cuff tear

Cutti Andrea Giovanni

Occupational biomechanical risk factors for surgical treatment of subacromial impingement syndrome (SIS) in a 16-year prospective study among male construction workers

Lewis Charlotte

Occupational mechanical and psychosocial exposures and Subacromial Impingement Syndrome: a systematic review

Andersen Johan H

Cervical intervertebral disc herniation and occupational risk factors: a literature review

Zunarelli Carlotta

Occupational risk factors for hospitalization due to cervical disc disorder in a 29-year prospective study of Swedish male construction workers

Jackson Jennie

MRI lumbar disco-vertebral findings, age and manual material handling. A cross-sectional multicenter study

Bonfiglioli Roberta

Persistent postoperative pain after groin hernia repair in relation to occupational mechanical exposures

Svendsen Susanne Wulff

Inguinal hernia and occupational physical exposure: systematic review and meta-analysis

Kuijer Paul

● **Gender and MSD and Work Ability (Session 1) - Sala degli Atti**

Chair: Emma Irvin

Are there sex differences in scaption torque steadiness?

Oliveira Ana Beatriz

Are there sex differences in the muscle activation and in the relationship between objective and subjective indicators of muscle fatigue in the neck/shoulder region during a repetitive task?

Machado Cid Marina

Are sex differences in neck/shoulder electromyographical changes induced by a fatiguing repetitive task affected by the choice of the fatigue criterion?

Machado Cid Marina

Evaluating the treatment of sex and gender when assessing methodologic quality in a systematic review of explanatory and prognostic studies of musculoskeletal disorders

Stock Susan

What are the determinants of the sex/gender difference in the duration of work absence for musculoskeletal disorders? a mixed studies systematic review

Stock Susan

Sex-specific effects of standing vs sitting on trunk and leg muscular and vascular outcomes during a repetitive manual work task

Coté Julie

Awareness, Skill Building and Behavior Modification Program amongst Community and Office Employees on Safer Use of Computing Technology Equipment (Laptops, Desktops, Hand-held Devices, including smart-phones)

Madhwani Kishore P

4:30-6:00 PM - PARALLEL SESSIONS

- **Symposium - Salone del Podestà**

Title: Exposure response relationship assessing biomechanical overload of lumbar spine and upper limbs by methods suggested in ISO standards

Chair: Deepak Sharan

Presenters: Enrico Occhipinti, Enrique Alvarez Casado, Natale Battevi, Daniela Colombini, Deepak Sharan

- **Symposium - Sala Re Enzo**

Methods for health risk assessment and risk factors identification of work-related musculoskeletal disorders.

Chair: Sunisa Chaiklieng

Presenters: Sunisa Chaiklieng, Pornnapa Suggaravetsiri, Worawan Poochada, Naruedee Poonkasem,

- **Effective interventions to prevent MSD (Session 3) - Sala degli Atti**

Chair: Benjamin Steinhilber

Knowledge transfer and exchange for work and health research to practice

Van Eerd Dwayne

Operator-exoskeleton interactions: preliminary study on the acceptability of these devices

Atain kouadio Jean Jacques

Potential of back exoskeletons in limiting spinal muscles activity depends on their design and on task modalities

Theurel Jean

Postural consequences of the use of upper-limb exoskeletons during overhead work: influence of exoskeleton design?

Desbrosses Kévin

The effect of passive exoskeleton on the spatial distribution of low back muscles activity during simulated work conditions

Vieira dos Anjos Fabio

Efficacy, usability and acceptability of exoskeletons for workers assistance: A Systematic Review of current and potential application

Carta Angela

A pilot study evaluating the use of a passive exoskeleton as potential intervention for mitigating low back pain risk factors in farmers

Thamsuwan Ornwipa

Tuesday 3rd September

8:00 AM - REGISTRATIONS OPENS

8:30-9:15 AM - PLENARY SESSION - **Salone del Podestà**

Keynote

Insights into workplace and personal factors that predict disability related to CTS: The NIOSH Consortium Study

Carisa Harris Adamson - Assistant Professor, University of California, Director, UCSF/UCB Ergonomics Graduate Training Program, Richmond CA, USA

9:15-10:00 AM - PLENARY SESSION - **Salone del Podestà**

Keynote

New findings from the Italian OCTOPUS and related studies on CTS

Roberta Bonfiglioli - Associate Professor of Occupational medicine Chair of the ICOH SC Musculoskeletal Disorders - Department of Medical and Surgical Sciences, University of Bologna, Italy

10:00-10:30 AM Coffee break

10:30-12:00 AM - PARALLEL SESSIONS

● **Symposium - Salone del Podestà**

New and Revised Exposure and Risk Assessment Methods For DUE MSDS

Chair: Carisa Harris Adamson

Presenters: Carisa Harris Adamson, Brad Evanoff, Lukas Mitterlehner, Britta Weber, Sean Gallagher

● **MSD Case Definition and Surveillance (Session 4) - Sala Re Enzo**

Chair: Susan Stock

The Sleeping on the Floor and the Range of Pelvic Tilt in Korean College Students

Yoon Jangwhon

Occupational musculoskeletal disorders among forestry workers

Pantea Codrina Petronela

Musculoskeletal disorders stemming from working in the wind industry: Results of an updated scoping review

Freiberg Alice

The differences in the number of varicose vein patients according to occupational categories and working positions: Pilot study on the disease's correlation to work

Lee Ilho

Bus road drivers: implementation of a remote physical exercise program using smartphone: a protocol study

Negreiros Alexandher

Musculoskeletal disorders due to handheld devices: Changing patterns in the past 12 years

Sharan Deepak

Does screen work result in musculoskeletal symptoms? A systematic review and meta-analysis

Coenen Pieter

● **Effective interventions to prevent MSD (Session 4) - Sala degli Atti**

Chair: Paul Kuijer

How do we measure adherence? The effect of different measures of exercise adherence during a workplace-based exercise training intervention for office workers

Welch Alyssa

Longitudinal monitoring of musculoskeletal disorders: the relevance for ergonomic interventions

Major Marie-Eve

The effects of an electro-mechanical seat suspension to reduce whole body vibration and low back pain in long haul truck drivers: Results from a randomized controlled trial

Dennerlein Jack

Supporting Return to Work after Total Knee Arthroplasty: Development of an Integrated Care-Intervention including eHealth and Goal Attainment Scaling

Straat A. Carlien

Workplace practices and research evidence in preventing prolonged disability in workers with musculoskeletal disorders

Nastasia Iuliana

A novel model for health examinations for workers exposed to hand intensive work – a process evaluation of the ergonomist's perspective

Dahlgren Gunilla

A model for risk assessment and health examinations for workers exposed to hand intensive work. The companies' experiences

Eliasson Kristina

POSTER SESSION (Poster listed by identification number) - **Sala del Quadrante**

Chair: Alysha Meyers

- 18.** Implementing preventive interventions for work-related upper extremity disorders in agriculture: facilitators and barriers
Van der Molen Henk
- 19.** Physical Exercise Intervention to reduce musculoskeletal disorders and improve work performance – a systematic literature search
Sjøgaard Gisela
- 20.** A Participatory Ergonomics Research Model for Development of Interventions and Identification of Cultural Norms
Fulmer Scott
- 21.** Gender differences on work-related musculoskeletal disorders among workers who perform their activities on sitting posture
Ana Beatriz Oliveira
- 22.** If sternocleidomastoid muscle activation increased in women during the simulation of repetitive tasks could it predict greater risks of disorders?
Ana Beatriz Oliveira
- 23.** Gender differences in the prevalence and intensity of neck, back and shoulder pain in Austrian bank headquarter workers - a secondary analysis of an observational study
Schwartz Bernhard
- 24.** Investigation of morningness and eveningness and it's related of factors caused by shift working in hospital nurses
Habibi Ehsanollah
- 25.** Presenteeism and Work-Related Musculoskeletal Disorders in Brazilian Nursing Workers
Baptista Patricia
- 26.** Factors of success and of failure in the process of returning to work after surgery for a work-related degenerative shoulder injury: description of the sample
Desbrosses Kévin
- 27.** The experience of nursing workers without work related musculoskeletal disorders on a sick team
Baptista Patricia
- 28.** Work ability and self-rated health of workers with chronic musculoskeletal diseases: A prospective cohort study
Padula Rosimeire Simprini

29. A multiprofessional care program to chronic work-related musculoskeletal diseases individual: a cohort prospective study
Padula Rosimeire Simprini
30. The independent Association Between Number Of Pain Sites And Return To Work. An Explanatory, Prospective Cohort Study
Drongstrup Jesper
31. Development and measurement properties of a firefighter-specific work limitations scale
Macdermid Joy
32. Perceptions of facilitating factors and barriers when implementing activity based workplaces before and after implementation
Wijk Katarina
33. Correlation between exposure to work-related musculoskeletal risk factors and self-reported musculoskeletal lower back and neck/upper limb symptoms: A cross-sectional study based on the fourth Korean Working Conditions Survey
Oh Sungsoo
34. Consensus on testing and evaluation of occupational exoskeletons in the workplace, for a better integration
Atain Kouadio Jean-Jacques
35. Patient Transfers and Risk of Back Injury: An Electromyographic Evaluation of Assistive Devices
Vinstrup Jonas

12:00 AM-1:30 PM - PARALLEL SESSIONS

- **Symposium - Salone del Podestà**
Exoskeletons for industrial use
Chair: Tessy Luger; Benjamin Steinhilber
Presenters: Jean Theurel, Ulrich Glitsch, Tessy Luger, Idsart Kingma, Divya Srinivasan
- **Symposium - Sala Re Enzo**
Time patterns of biomechanical exposures at work in prevention and health promotion related to MSD: activity, pauses and variation
Chair: Kaj Bo Veiersted
Presenters: Kaj Bo Veiersted, Suzanne Merkus, Pascal Madeleine, Padula Rosimeire Simprini, Svend Erik Mathiassen
- **Ageing, MS Health and Work (Session 1) - Salone degli Atti**
Chair: Anne Marie Dale
 - When musculoskeletal pain limits work capacity – results from the Senior WorkingLife study among 11,791 senior workers
Andersen Lars L.
 - Synthesis of predictor factors for early departures of ageing workers by a systematic literature review
Pletea Elisabeta
 - Musculoskeletal disorders as predictors of health-related job loss amongst older workers: Results from the HEAF Study
Walker-Bone Karen
 - Informal caring responsibilities and poorer health amongst working 50-64 year olds: results from the Health and Employment After Fifty (HEAF) Study
Harris E. Clare
 - Safer and healthier work at any age
Sas Katalin
 - Obesity and the ability to work to older ages: insights from the Health and Employment After Fifty (HEAF) study
D'Angelo Stefania

The contribution of excess body mass to the risk of all-cause and cause-specific disability retirement:
A systematic review and meta-analysis

Shiri Rahman

1:30-2:30 PM Lunch time

2:30-4:30 PM - PARALLEL SESSIONS

● **Symposium - Salone del Podestà**

Multilevel inventory of methods for risk assessment of physical workload (MEGAPHYS) – A joint project of the German Federal Institute for Occupational Safety and Health (BAuA) and the German Social Accident Insurance (DGUV)

Chair: Britta Weber; Marianne Schust

Presenters: Britta Weber, Marianne Schust, Ralph Bruder, Matthias Jäger

● **MS Work Disability (Session 1) - Sala Re Enzo**

Chair: David Rempel

Do Pre-Operative Patient Expectations Regarding Work Ability Become True 6 Months After Total Knee Arthroplasty (TKA)? A Multicenter Prospective Cohort Study

Kuijer Paul

Prevalence and associated factors of musculoskeletal pain in artisanal fishermen in southern Brazil

Cezar-Vaz Marta Regina

Impact of first-line healthcare providers on injured workers' trajectories of care: a four jurisdiction critical analysis

Hudon Anne

Objective predictors of physical work ability in aged manual workers

Norheim Kristoffer Larsen

Musculoskeletal diseases mediate the association of work ability and work life satisfaction with intention to retire

Nygård Clas-Håkan

Measurement properties of instruments assessing permanent functional impairment of the spine: blending evidence and stakeholder perspectives

Goes Suelen M.

A trajectory of good workability: An analysis of workplace predictors over 6 years

Oakman Jodi

Is it possible to estimate health economics from work ability score in musculoskeletal in workers with musculoskeletal disorders?

Hagberg Mats

Muscle strain and postures during conventional and robotic-assisted laparoscopic surgery: A paired cross-sectional study

Dalager Tina

Calcium fluxes in work-related muscle disorders: implications from a rat model

Barbe Mary F

● **Work Ability (Session 1) - Salone degli Atti**

Chair: Carisa Harris Adamson

Quantification of stroke-induced proprioceptive and motor deficits to facilitate rehabilitation

Acosta-Sojo Yabrianna

Favorable changes in physical working conditions and risk of sickness absence: Analyzing a prospective cohort study as a pseudo-experiment

Shiri Rahman

QuickDecks: A new tool for sharing best evidence in back pain

Irvine Emma

Associations between muscular pain in neck and shoulders and psychosocial factors at work in relation to leisure physical activity among teachers

Malinauskiene Vilija

Correlation between fibromyalgia severity score and fitness for work: A cross-sectional study

Shlomo Moshe

Linking health care and workplace: role of occupational therapists in workplace based occupational health care to prevent MSA-related work disability

Désiron Huget

Neck, trunk, and upper arm posture variation during computer work at a sit-stand table in a real work setting

Barbieri Dechristian

Variation in upper trapezius and wrist extensor EMG among computer workers during sit-stand table use in a real work setting

Barbieri Dechristian

Implementing Activity-based Workplaces (ABW) and the importance of participating in process activities

Bergsten Eva

Evaluation of an Information Package on MSD Prevention for Small and Micro Business in Ontario, Canada

Yazdani Amin

4:30-6:00 PM - PARALLEL SESSIONS

- **Symposium - Sala Re Enzo**

SELFBACK, a digital health intervention to support self-management in low back pain

Chair: Karen Sogaard

Presenters: Karen Sogaard, Paul Jarle Mork, Mette Jensen Stochkendahl, Barbara Nicholl, Malene Jagd Svendsen, Louise Fleng Sandal

- **Symposium - Salone del Podestà**

The use of work-related PROMS in clinical care. Can the use of PROMS facilitate the dialogue between clinical care and occupational health?

Chair: Annechien Beumer

Presenters: Bert van de Wijdeven, Yasmayne Karel, Paul Kuijer, Annechien Beumer

- **Effective interventions to prevent MSD (Session 5) - Salone degli Atti**

Chair: Susanne Wulff Svendsen

Reducing postural exposure in repetitive manual handling using the Smart Workwear System – effects of vibrotactile feedback and verbal instructions

Carl Lind

The Economic Burden of Work-Related Musculoskeletal Disorders in Five European Countries

Amirabbas Mofidi

Investigating the Potential for Workplace Injury Tradeoffs: Needle-less Injection Tools in Pork Production

Trask Catherine

Implementing an ergonomics program on commercial construction worksites reduced new incidents of pain and injury: Results from a cluster randomized controlled trial

Dennerlein Jack

Physiological effects of two level compression socks on security guards during prolonged standing work

Garcia Gabriela

Short interruptions during full day computer work and trapezius muscle activity – a randomized laboratory study

Läubli Thomas

Process Evaluation of a Workplace-Based Exercise and Health Promotion Cluster-Randomised Trial to Increase Productivity and Reduce Neck Pain in Office Workers: a RE-AIM Approach

Welch Alyssa

Wednesday 4th September

8:00 AM - REGISTRATION OPENS

8:30-9:15 AM - PLENARY SESSION - Salone del Podestà

Keynote

Imaging and biochemical biomarkers research in non-traumatic musculoskeletal disorders (MSD). Practical recommendations

Judith Gold - Centre for Musculoskeletal Research, Department of Occupational and Public Health Sciences, University of Gävle, Gävle, Sweden. Gold Standard Research Consulting

9:15-10:00 AM - PLENARY SESSION - Salone del Podestà

Keynote

Frailty and pre-frailty are major determinants of inability to work at older ages: what can we do about it?

Karen Walker-Bone - Director Arthritis Research UK/MRC Centre for Musculoskeletal Health and Work, MRC Lifecourse Epidemiology Unit, Southampton United Kingdom

10:00–10:30 AM Coffee break

10:30-12:00 AM - PARALLEL SESSIONS

- **Symposium - Salone del Podestà**

Evidence-based, sustainable interventions: Do research and practice meet?

Chair: Laura Punnett

Presenters: Henk van Rhee, Jan Dul, Yves Roquelaure, Mohsen Zare, Kasper Edwards, Dwayne van Eerd, Maaïke Huijsmans

- **MSD Case Definition and Surveillance (Session 5) - Sala Re Enzo**

Chair: Brad Evanoff

Impact of working technique on cumulative loadings among other factors

Vallée Marcotte Jasmin

Implementation of patient transfer technique and good perceived psychosocial working climate association with peak exposures of physical load among health care providers in nursing homes in Norway

Amro Amin

Characterizing musculoskeletal injuries in two public sector workforces with exposure to two different custodial populations

Kurowski Alicia

The BRAZilian eValuation of Occupational health (BRAVO) database: presentation of the workers' profile and prospects for future studies

De Barros Fernanda Cabegi

Prevalence of upper limb disorders and occupational health problems among the women brick molders of west bengal, india

Das Banibrata

Work-related polyneuropathy of upper limb

Ishteryakova Olga

Salient beliefs underlying the intention to diagnose WRMSD among General Practitioners: a qualitative study using Theory of Planned Behaviour

Mohd Yusoff Hanizah

● Risk Assessment (Session 2) - Sala degli Atti

Chair: Andre Klussmann

A critique of duty cycle and its role in assessing MSD risk

Gallagher Sean

Instrumental-based methods for biomechanical risk assessment

Draicchio Francesco

Musculoskeletal health in people on sick leave: Validation of the Norwegian version of the Musculoskeletal Health Questionnaire

Tingulstad Alexander

Sitting, standing and physical activity among male and female office workers of different age: behaviours examined using compositional data analysis

Mathiassen Svend Erik

The influence of nursing home, ward, eldercare worker and work situation on the use of assistive devices during resident handling

Karstad Kristina

Subjective criteria for knife sharpness evaluation in meat-cutting activities

Savescu Adriana

Psychophysiological reactions, stress and recuperation among telecommuting academics

Widar Linda

POSTER SESSION (Poster listed by identification number) - Sala del Quadrante

Chair: Julie Coté

36. Developing RAMP 2.0 - for enhanced applicability

Rose Linda M

37. The Upper limb neurodynamic test 1 in the clinical diagnosis of carpal tunnel syndrome

Trillos Maria

38. Worker's strategies analysis to prevent musculoskeletal disorders: the case of deburrers in the foundry sector

Schoose Clara

39. Occupational Injuries in Craft Beer Brewing Industry

Brents Colleen

40. Parsonage-Turner Syndrome: differential diagnosis of painful shoulder in a bus driver

Barbieri Dechristian Franca

41. Raynaud's phenomenon in the occupational context

Barbieri Dechristian Franca

42. Prevalence of and factors associated with nonspecific lower back pain in warehouse workers

Martins Gomes Maryanne

43. Prevalence of musculoskeletal pain and evaluation of postural risk among administrative workers at the Costa Rica Institute Technology

Campos-Fumero Adriana

44. Online dashboard for surveillance of ergonomic-related workers' compensation claims by industry and diagnosis category

Meyers Alysha

45. Difference between experts' and novices' footstep patterns during a palletizing task

Vallée Marcotte Jasmin

46. Work-related musculoskeletal injuries among health care workers handling patients - Brief statistical analysis

Melo Daniel

47. Evaluation of resilience in nursing workers in a teaching hospital
Baptista Patricia
48. Evaluation of a passive back exoskeleton in simulated industrial tasks
Baer Mona
49. Creating Awareness amongst Community and Office Employees on Safer Use of Computing Technology Equipment (Laptops, Desktops and Hand-held Devices)
Singh Jitendra Kumar
50. Implementation of short passive and active breaks during simulated laparoscopic work
Luger Tessy
51. Effect of telehealth program to office workers on knowledge, skills and on behavior: a secondary analysis of a cluster randomized controlled trial.
Padula Rosimeire Simprini
52. The Workers Applied More for the Sick Days Secondary to Musculoskeletal Disorders in the Year of a Major Downsizing: An observed case report at a Korean manufacturing company
Yoon Jangwhon
53. Lumbar disc surgery: is it only a sentinel event of spinal disease?
Fouquet Natacha

12:00-AM – 1:30 PM - PARALLEL SESSIONS

- **Symposium - Salone del Podestà**

- Effectiveness of interventions to prevent low back pain: insights from the field**

- Chair: Stefania Curti*

- Presenters: Henk van der Molen, Rahaman Shiri, Paul Kuijjer, Emma Irvin*

- **Effective interventions to prevent MSD (Session 6) - Sala Re Enzo**

- Chair: Minori Nakata*

Outcome of treatment of work-related myofascial pain syndrome using a sequenced interdisciplinary rehabilitation protocol

Sharan Deepak

Effectiveness of onsite occupational health clinics in management of work-related musculoskeletal disorders in information technology professionals

Sharan Deepak

Evidence Based Sustainable Interventions for Safer Working amongst Office Employees, Physicians and Paramedical Staff

Madhwani Kishore P

An on-line intervention tool for reducing musculoskeletal discomfort amongst individuals working with computers and laptops from home

Madhwani Kishore P

Integrated care for work participation among orthopaedic surgery patients – a systematic review with meta-analysis

Coenen Pieter

Comparisons of whole body vibration exposures and related musculoskeletal stress between single-axial passive and multi-axial active suspension in a mining vehicle application

Kim Jay

A Cochrane Review: Ergonomic interventions for preventing work-related musculoskeletal disorders of the upper limb and neck among office workers

Victor CW Hoe

- **Risk Assessment (Session 3) - Salone degli Atti**

- Chair: Lope H Barrero*

Reaction Parameters Linked to Cumulative Trauma Disorders during Use of Powered Tightening Tools: A Literature Review

Mazaheri Ava

A participative toolkit for workplace users to assess and control risk of musculoskeletal disorders (MSDs)

Oakman Jodi

Physical load of rescue workers during patient transport in stairwells

Schiefer Christoph

Motion-based estimation of back loading during manual material handling tasks

Muller Antoine

Low back pain risk assessment: combining trunk kinematic and electromyographic data through a deep learning neural network

Delisle Alain

Monitoring working activities with inertial and magnetic sensors in place of video cameras: what are the advantages?

Ferrari Alberto

In Vitro Fatigue of Human Flexor Digitorum Tendons

Gallagher Sean

1:30-2:30 PM Lunch time & ICOH SC MSD Meeting

2:30 – 4:30 PM - PARALLEL SESSIONS

● **Symposium - Salone del Podestà**

Fatigue Manichaeism and Musculoskeletal disorders

Chair: Bernard J. Martin

Presenters: Karen Søgaard, Julie Coté, Marie Barbe, Sean Gallagher, Bernard J. Martin

● **Work Ability (Session 2) - Sala Re Enzo**

Chair: Andreas Seidler

Alternations between physical and cognitive tasks – does temporal pattern and cognitive task difficulty influence fatigue development?

Mixter Susanna

Occupational and leisure time physical activity and multiple pain sites in construction and healthcare workers during 2-year follow-up

Heggeland Marieke

Mobile app for employees as intervention to provoke a healthy physical workstyle

De Kraker Heleen

What happens with ergonomics after relocation to a flex office?

Wahlström Viktoria

Working while working out – Using two types of dynamic office workstations (DOWs) with two intensities and the effects on tasks with various complexity

Schellewald Vera

Reasons for use and non-use of sit-stand workstations – results of a qualitative study among office workers with long-term access to sit-stand workstations

Huysmans Maaïke

Implementation of Ergonomic Intervention on Some Unorganized Sectors Workplaces at India

Ghosh Tirthankar

Inclusion of HFE Principles in the Development of a National Design Standard for Ambulances

Yazdani Amin

Inventory cost model with rest allowance based on effects of heat strain and metabolic cost

Korkulu Sezen

- **Risk Assessment (Session 4) - Sala degli Atti**

Chair: Yves Roquelaure

Proposal for an integrated multi-method holistic approach for risk assessment (and management) of biomechanical overload on the musculoskeletal system in healthcare workers of a large Italian University Hospital

Sala Emma

The Composite Strain Index (COSI) to evaluate the wrist's biomechanical overload in the milking routine: the example of the Italian dairy sector

Masci Federica

Novel instrumentation for measuring hand effort through pressure mapping and contact forces during actual task performance

Jae Son

A wearable system for automated assessment of Hand Activity Level - a pilot study

Forsman Mikael

A smart hand-wrist risk assessment method

Forsman Mikael

Narrative review of risk assessment methods applied in the agricultural setting for the prevention of musculoskeletal disorders

Ilaria Denti Pompiani

Ergonomic Risk Assessment and Process Efficiency in the Craft Brewing Industry: A Pilot Study

Hancock Kyle

Prevalence of musculoskeletal pain in children and youth in rural work and associated factors

Modernel Xavier Daiani

Manual force assessment using wearable pressure sensors: a case study

Graziosi Francesca

Use of Virtual Workplace Models and Predetermined Time Systems for Analysis of Work Loads

Bonfiglioli Roberta

4:30-6:00 PM - PARALLEL SESSIONS

- **Symposium - Sala Re Enzo**

Low Back Pain – Occupational and clinical aspects

Chair: Shlomo Moshe

Presenters: Shlomo Moshe, Ayala Krakov, Darya Levy Barak, Yael Sahar-Kostis, Yair Barak

- **Symposium - Salone del Podestà**

Beyond CTS: Findings on other health outcomes in recent large cross sectional and prospective studies

Chair: Carisa Harris

Presenters: Alysha R Meyers, Carisa Harris, Stephen Bao, David H. Seidel, Roberta Bonfiglioli

- **Effective interventions to prevent MSD (Session 7)- Sala degli Atti**

Chair: Dongmug Kang

Telehealth with Extended Care to promote the quality of life of office workers: a cluster randomized controlled trial

Padula Rosimeire Simprini

Adherence of office workers to active and passive pauses at workplace

Padula Rosimeire Simprini

Design of a return-to-work program to improve productivity and reduce recurrence: Back Pain Case

Lope H. Barrero

Reducing MSD risk in the aged care sector using multi-factorial evidence-based interventions

Rothmore Paul

A Cochrane Review about the effectiveness of work breaks for preventing musculoskeletal symptoms
Luger Tessy

Do high adherence to job rotation results in positive effects on the musculoskeletal symptoms, occupational risk factors perception and job satisfaction?
Comper Maria Luiza Caires

Impact of Secondary Intervention on Musculoskeletal Disorder Development, Systemic Inflammation and Sensorimotor Behavioral Declines in A Rat Model
Barbe Mary

Thursday 5th September

8:00 AM - REGISTRATION OPENS

8:30-9:15 AM - PLENARY SESSION - **Salone del Podestà**

Keynote

When and how to think about sex/gender during an ergonomic intervention

Karen Messing - Professeure émérite, Département des sciences biologiques et chercheure, centre de recherche CINBIOSE, UQAM Université du Québec, Montréal - Canada

9:15-10:00 AM - PLENARY SESSION - **Salone del Podestà**

Special Session

Exposure level assessment for causal attribution of MS diseases and Occupational Exposure Limits to prevent MS diseases and disorders.

Francesco Violante - Professor of Occupational medicine - Department of Medical and Surgical Sciences, University of Bologna, Italy

10:00–10:30 AM Coffee break

10:30-12:00 AM - PARALLEL SESSIONS

- **Symposium - Salone del Podestà**

Developing International Criteria for Work-Related Musculoskeletal Diseases: An Initiative of the Committee on Work-related Musculoskeletal Disorders of ICOH

Chair: Roberta Bonfiglioli

Presenters: David Rempel, Karen Walker-Bone, Alexis Descatha, Andreas Seidler, Paul Kuijer

- **MS Work Disability (Session 2) - Sala Re Enzo**

Chair: Adriano Papale

Which workers in France are at high risk of long-term work absence due to work-related musculoskeletal disorders?

Chazelle Emilie

Individual Placement and Support as a model of vocational rehabilitation for patients unemployed with chronic pain: A feasibility programme

Catherine Linaker

Effects of an early multidisciplinary intervention on sickness absence in patients with persistent low back pain - a randomized controlled trial

Mortensen Ole

Prevalence of sickness absenteeism and presenteeism due to musculoskeletal disease in manufacturing workers

Comper Maria Luiza Caires

Prevalence of musculoskeletal complaints in minimal invasive surgery

Steinhilber Benjamin

Future work ability is not regularly discussed with their general practitioner by patients suffering from musculoskeletal disorders – results of a survey among patients of a German population-based integrated healthcare model

Rieger Monika A

Definition of work disability from shoulder pain in a large French population

Godeau Diane

Musculoskeletal disorders in children due to overuse of electronic devices: Risk factors and clinical features

Sharan Deepak

● **Occupational Exposure Limits (Session 1) - Sala degli Atti**

Chair: Svend Erik Mathiassen

Lifestyle risk factors in the incidence and prognosis of chronic pain

Shiri Rahman

Time-use composition of physical behaviors at work and sick leave trajectories due to musculoskeletal pain

Hallman David

Predictive equations for initial horizontal hand forces when pushing or pulling trolleys based on trolley weight

Douwes Marjolein

Improved Planning for Active Pauses during Computer Work via Ocular Biofeedback

Samani Afshin

Concordance between exposure to physical factors in the Italian and the US O*NET database

D'Errico Angelo

How does heavy physical workload effect the progression of musculoskeletal pain? A cohort study of Swedish workers with pre-existing occasional pain

Badarin Kathryn

Prevalence and risk factors for musculoskeletal disorders in South African workers

Nyantumbu-Mkhize Busisiwe

POSTER SESSION (Poster listed by identification number) - Sala del Quadrante

Chair: Francesca Graziosi

54. The relationship between sustained inflammation and work-related upper limb disorders - preparation of a cohort study

Läubli Thomas

55. Associations of objectively measured forward bending at work with low-back pain intensity: a 2-year follow-up study of construction and healthcare workers

Veiersted Kaj Bo

56. Sitting dynamics are age-dependent during computer work

Madeleine Pascal

57. Change of Musculoskeletal symptoms and working condition in a car part assembling factory during 2004 ~ 2016

Kang Dongmug

58. A Mixed Methods Analysis of Farm Machinery Injury: Contributing Factors and Proposed Prevention Strategies

Trask Catherine

59. Musculoskeletal disorders risk factors among Ophthalmologists in the operating theatre

Lee Lay Tin

60. Reliability of an observation protocol for foot motion assessment in a palletizing task

Vallée Marcotte Jasmin

61. Can productive manufacturing layouts influence of the pauses and worker's health?

Negreiros Alexandher

62. Risk factors for work related musculoskeletal disorders in information technology professionals

Sharan Deepak

63. A holistic approach to a disability management program in Occupational Health management
Van Niekerk Catherine Sarah
64. Correct identification of health promotion awareness to facilitate return to work
Minnie Denise
65. The my relief project: a european online education programme for older workers with chronic low back pain
Cibelli Anna
66. Why Workers Hesitate to Report Their Work-Related Musculoskeletal Disorders: A survey at a Korean manufacturing company
Yoon Jangwhon

12:00 AM-1:00 PM - PARALLEL SESSIONS

● Symposium - Salone del Podestà

Musculoskeletal Injuries amongst Firefighters

Chair: Joy C MacDermid

Presenters: Joy C MacDermid, Kathryn Sinden, Susan Stock

● Risk Assessment (Session 5) - Sala Re Enzo

Chair: Sean Gallagher

Ergonomic risk assessment for work related musculoskeletal disorders in an orthopedic surgery team
Sharan Deepak

Working in cold environments and chronic pain lasting ≥ 3 months, a cross-sectional study from The Tromsø Study 6
Farbu Erlend

Non-explicit observational method is reproducible and valid for the analysis of occupational biomechanical exposure of workers
Valentim Daniela P

Direct assessment of net spinal moments in subjects wearing a passive exoskeleton for trunk support in stooped working pose
Baten Chris

● Ageing, MS Health and Work and Work Ability (Session 2) - Sala degli Atti

Chair: Dwayne van Eerd

Dose-response relationship between cumulative physical workload and osteoarthritis of the hip – a meta-analysis applying an external reference population for exposure assignment
Andreas Seidler

Opioids prescribed to manage musculoskeletal pain often lead to opioid use disorder among construction workers
Dale Ann Marie

Patterns in concurrent low back and neck/shoulder pain among eldercare workers - A one-year longitudinal study with 4-weeks measurements
Søgaard Karen

The profile of people working in the social care sector in a cohort of 50-64 year-olds: results from the Health and Employment After Fifty (HEAF) study
D'Angelo Stefania

Work-Related Musculoskeletal Disorders among Older Construction Workers in the United States
Dong Xiuwen Sue

1:00-1:30 PM Concluding remarks & closing ceremony - Salone del Podestà