



**BOLOGNA**  
ITALY  
2 • 5  
SEPTEMBER 2019

# PREMUS 2019

10<sup>th</sup> 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.

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.



## 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

### **BONFIGLIOLI ROBERTA, ITALY**

Department of Medical and Surgical Sciences, University of Bologna

### **CURTI STEFANIA, ITALY**

Department of Medical and Surgical Sciences, University of Bologna

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Department of Biomedical and Neuromotor Sciences, University of Bologna

### **VIOLANTE FRANCESCO SAVERIO, ITALY**

Department of Medical and Surgical Sciences, University of Bologna



## International Scientific Committee

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School of Engineering, Pontificia Universidad Javeriana, Bogotá, Colombia

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Chair ICOH SC Musculoskeletal disorders (MSD)

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Director of the Institute and Policlinic of Occupational and Social Medicine  
Technische Universität Dresden

**SHARAN, DEEPAK, INDIA**

Consultant in Orthopaedics, Rehabilitation, Ergonomics, Occupational Safety and Health  
RECOUP Neuromusculoskeletal Rehabilitation Centre, Bengaluru, India

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Department of Biomedical and Dental Sciences and of Morphological and Functional  
Images, University of Messina  
Chair of the Italian Society of Occupational Medicine (SIML)

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Head, Scientific Group on Work-related Musculoskeletal Disorders  
Quebec Institute of Public Health (INSPQ)  
Associate Clinical Professor  
Department of Social & Preventive Medicine  
University of Montreal School of Public Health  
Adjunct Professor  
Department of Epidemiology, Biostatistics & Occupational Health, McGill University

**VERBEEK, JOS, FINLAND**

Finnish Institute of Occupational Health, Cochrane Work

**VIOLANTE, FRANCESCO SAVERIO, ITALY**

Department of Medical and Surgical Sciences, University of Bologna,  
ICOH Board Member

**WALKER-BONE, KAREN, UK**

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.

Each participant will receive the number of credits he/she is entitled according to his/her actual participation at the event after completing the feedback form.

Please find below the breakdown of ECMEC®s per day:

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  
on Occupational Health



**DIMEC**  
Department of Medical and Surgical Sciences  
DIMEC University of Bologna, Italy



**IEA**  
International Ergonomics  
Association



**SIML**  
Società Italiana  
di Medicina del Lavoro

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Salute  
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## Scientific Programme

### Sunday 1<sup>st</sup> September

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6:00 PM - REGISTRATIONS OPENS

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

### Monday 2<sup>nd</sup> September

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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 Sharple - 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 Schaaijk 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

*Svensen 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

*Cote 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 3<sup>rd</sup> September

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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 Kuijjer*

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*

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

*Dahlgren Gunilla*

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 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 Kevin*
- 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: Tessa Luger; Benjamin Steinhilber*  
*Presenters: Jean Theurel, Ulrich Glitsch, Tessa 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*

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*

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*

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*

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

*Irvin 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 Søgaard*

*Presenters: Karen Søgaard, 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 Kuijter, 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

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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

*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*

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

*Acosta-Sojo Yabrianna*

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

*Bonfiglioli Roberta*

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 5<sup>th</sup> September

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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

*Steinheilber 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. Ergonomic Assessment of PASCAL Photocoagulator Machine in An Ophthalmology Clinic  
*Lim Joseph*
60. Musculoskeletal disorders risk factors among Ophthalmologists in the operating theatre  
*Lee Lay Tin*
61. Reliability of an observation protocol for foot motion assessment in a palletizing task  
*Vallée Marcotte Jasmin*
62. Can productive manufacturing layouts influence of the pauses and worker's health?  
*Negreiros Alexandher*
63. Risk factors for work related musculoskeletal disorders in information technology professionals  
*Sharan Deepak*
64. A holistic approach to a disability management program in Occupational Health management  
*Van Niekerk Catherine Sarah*
65. Correct identification of health promotion awareness to facilitate return to work  
*Minnie Denise*
66. The my relief project: a european online education programme for older workers with chronic low back pain  
*Cibelli Anna*
67. 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  $\geq 3$  months, a cross-sectional study from The Tromsø Study 6  
*Farbu Erlend*

*Farbu Erlend*

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

*Valentim Daniela P*

Prevalence and associated factors of musculoskeletal pain in artisanal fishermen in southern Brazil  
*Cezar-Vaz Marta Regina*

*Cezar-Vaz Marta Regina*

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

*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*

*Andreas Seidler*

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

*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**