

6<sup>th</sup> REHAB MOVE  
Congress

Groningen  
The Netherlands  
December 12-14, 2018  
www.rehabmove2018.com

REHABILITATION: MOBILITY, EXERCISE & SPORTS

## Program Wednesday, December 12, 2018

### Mobility

08.00 Registration with coffee & tea  
Upload Desk Open

09.00 Opening  
**Dr. Riemer Vegter, Congress Chair**  
**Prof M. Joëls, Dean of the University Medical Center Groningen**

#### **Theme: Man-Machine Interfacing**

**Chair: Dr. Raoul Bongers**

09.15 Keynote Lecture 1  
**Prof Dario Farina**

#### **Session 1: Powered assistive technology**

**Chairs: Prof Coen van Bennekom & Dr. Helco van Keeken**

10.00 Oral presentations (3)

#### **A-1: MYOELECTRIC ASSISTIVE DEVICES: DOES EMG PATTERN DISTINCTNESS REFLECT CONTROL ABILITY**

AW Franzke, MB Kristoffersen, CK Van der Sluis, RM Bongers, A Murgia  
University of Groningen, GRONINGEN, Netherlands

#### **A-2: CAN LOW-COST MOTION CAPTURE SYSTEMS BE USED TO MEASURE ACCURATELY JOINT REACTION IN POWERED-EXOSKELETON USERS?**

ML Lancini<sup>1</sup>, FA Fornaser<sup>2</sup>, PS Pasinetti<sup>1</sup>  
<sup>1</sup>University of Brescia, BRESCIA, Italy; <sup>2</sup>University of Trento, TRENTO, Italy

#### **A-3: A FRAMEWORK OF EXOSKELETON-SKILL-TESTS IN PATIENTS WITH COMPLETE SPINAL CORD INJURY**

R.B. van Djijseldonk<sup>1</sup>, I.J.W. van Nes<sup>2</sup>, H. Rijken<sup>2</sup>, H. van de Meent<sup>2</sup>, N.L.W. Keijsers<sup>2</sup>  
<sup>1</sup>Sint Maartenskliniek, NIJMEGEN, Netherlands

10.45 Coffee break & Exhibition & Posters

## Session 2: Daily Mobility Optimization

**Chairs: Prof DirkJan Veeger & Dr. Rienk Dekker**

11.15 Oral presentations (4)

### **A-4: OPTIMIZING MANUAL WHEELCHAIR SETTINGS USING NUMERICAL SIMULATION TO IMPROVE MOBILITY IN VARIOUS DAILY-LIFE ACTIVITIES**

S. Hybois<sup>1</sup>, J. Bascou<sup>2</sup>, F. Lavaste<sup>3</sup>, H. Pillet<sup>3</sup>, C. Sauret<sup>3</sup>

<sup>1</sup>Institut de Biomécanique Humaine Georges, Arts et Métiers ParisTech, PARIS, France ; <sup>2</sup>Centre d'Etudes et de Recherche sur l'Appareillage des Handicapés, CRÉTEIL, France ; <sup>3</sup>Institut de Biomécanique Humaine Georges Charpak, Arts et Métiers ParisTech, PARIS, France

### **A-5: FACTORS ASSOCIATED WITH TRANSFER INDEPENDENCE IN MEN WITH PARAPLEGIA**

R.E. Cowan<sup>1</sup>, A.A. Guccione<sup>2</sup>, R.E. Keyser<sup>2</sup>, D. Murray<sup>2</sup>, C.S. Fitzmaurice<sup>1</sup>, A. Rounds<sup>3</sup>, I. Ljungberg<sup>3</sup>, S. Groah<sup>3</sup>

<sup>1</sup>University of Miami Miller School of Medicine, MIAMI, FL, United States of America; <sup>2</sup>George Mason University, FAIRFAX, VA, United States of America; <sup>3</sup>MedStar Health Research Institute, HYATTSVILLE, MD, United States of America

### **A-6: WHEELCHAIR USERS' SUPRASPINATUS TENDONS CHANGE WITH LOADING: RELATIONSHIP WITH THE SUBACROMIAL SPACE AND SUBJECT CHARACTERISTICS**

FM Bossuyt<sup>1</sup>, U Arnet<sup>1</sup>, A Cools<sup>2</sup>, ML Boninger<sup>3</sup>

<sup>1</sup>Swiss Paraplegic Research and University of Luzern, NOTTWIL, Switzerland

<sup>2</sup>University of Ghent and University of Copenhagen, GHENT, Belgium

<sup>3</sup>Department of Veterans Affairs and University of Pittsburgh, PITTSBURGH, United States of America

### **A-7: THE ROLL-OVER SHAPE WHILE WALKING WITH AND WITHOUT ANKLE-FOOT ORTHOSES IN CHILDREN WITH CEREBRAL PALSY**

YL Kerkum<sup>1</sup>, H Houdijk<sup>2</sup>, MA Brehm<sup>3</sup>, AI Buizer<sup>4</sup>, J Harlaar<sup>5</sup>

<sup>1</sup>OIM Orthopedie, ASSEN, Netherlands

<sup>2</sup>Amsterdam Movement Sciences- VU University, Human Movement Science, AMSTERDAM, Netherlands; <sup>3</sup>Amsterdam

Movement Sciences- Academic Medical Center, dept. Rehabilitation, AMSTERDAM, Netherlands; <sup>4</sup>Amsterdam Movement

Sciences- VU University medical center, dept Rehab. medicine, AMSTERDAM, Netherlands; <sup>5</sup>Delft University of Technology,

Department of Biomechanical Engineering, DELFT, Netherlands

12.15 Lunch break & Exhibition & Posters

### **Theme: Motor learning**

**Chair: Dr. Helco van Keeken**

13.30 Keynote lecture 2

**Prof Mindy Levin**

## Session 3: Biomechanics & Motor Control

**Chairs: Dr. Han Houdijk & Dr. Aline Vrieling**

14.15 Oral presentations (5)

### **A-8: BIOMECHANICAL EFFECTS OF TWO DIFFERENT CHOPART PROSTHESES DURING LEVEL GROUND WALKING**

TK Kaib<sup>1</sup>, JB Block<sup>2</sup>, DH Heitzmann<sup>2</sup>, AM Alimusaj<sup>2</sup>, SW Wolf<sup>2</sup>

<sup>1</sup>HEIDELBERG, Germany; <sup>2</sup>University Hospital, HEIDELBERG, Germany

### **A-9: WALKING ADAPTABILITY TRAINING IN PEOPLE AFTER STROKE: A RANDOMIZED CONTROLLED TRIAL**

C Timmermans<sup>1</sup>, M Roerdink<sup>1</sup>, CGM Meskers<sup>2</sup>, PJ Beek<sup>1</sup>, TWJ Janssen<sup>1</sup>

<sup>1</sup>Vrije Universiteit Amsterdam, AMSTERDAM, Nederland

<sup>2</sup>VU Medical Center, AMSTERDAM, Nederland

### **A-10: MOTOR LEARNING OUTCOMES OF WHEELCHAIR PROPULSION DURING SPINAL CORD INJURY REHABILITATION AND IN EXPERIENCED USERS**

M.T. Leving<sup>1</sup>, S. De Groot<sup>1</sup>, R.J.K. Vegter<sup>1</sup>, F.A.B. Woldring<sup>2</sup>, M. Tepper<sup>2</sup>, L.H.V. Van der Woude<sup>1</sup>

<sup>1</sup>GRONINGEN, Netherlands

<sup>2</sup>University Medical Center Groningen, GRONINGEN, Netherlands

**A-11: ARE INDIVIDUALS WITH UNILATERAL TRANSTIBIAL AMPUTATION ABLE TO ADAPT TO AN ACUTE PROSTHETIC INTERVENTION?**

AR De Asha<sup>1</sup>, RJ Foster<sup>2</sup>, T Skervin<sup>2</sup>, CT Barnett<sup>3</sup>

<sup>1</sup>C-Motion Inc., GERMANTOWN, United States of America; <sup>2</sup>Liverpool John Moores University, LIVERPOOL, United Kingdom;

<sup>3</sup>Nottingham Trent University, NOTTINGHAM, United Kingdom

**A-12: PROPULSION BIOMECHANICS DURING WHEELCHAIR TURNING MANOEUVERS IN YOUNG ABLE-BODIED MEN AND WOMEN**

Mr. Chaikhot

COLCHESTER, United Kingdom

15.30 Tea break & Exhibition & Posters

**Session 4: Motor Skill Acquisition**

**Chairs: Dr. Astrid Balemans & Prof Corry van der Sluis**

16.00 Oral presentations (4)

**A-13: THE EFFECTIVENESS OF VIDEO GAME-BASED BALANCE TRAINING IN CHILDREN WITH CEREBRAL PALSY**

P. Meyns<sup>1</sup>, C. Bras<sup>2</sup>, J. Harlaar<sup>3</sup>, L. Van de Pol<sup>2</sup>, F. Barkhof<sup>2</sup>, A.I. Buizer<sup>2</sup>

<sup>1</sup>Hasselt University, DIEPENBEEK, Belgium; <sup>2</sup>VU University Medical Center, AMSTERDAM, Nederland; <sup>3</sup>Delft University of Technology, DELFT, Nederland

**A-14: HANDRAIL HOLDING ON A SPLIT-BELT TREADMILL REDUCES LOCOMOTOR LEARNING**

TJW Buurke, CJC Lamoth, D Vervoort, LHV van der Woude, AR den Otter

University of Groningen, University Medical Center Groningen, GRONINGEN, Nederland

**A-15: TRAINING MOVEMENTS FOR DISTINCT ELECTROMYOGRAM PATTERNS USING SERIOUS GAMING**

MB Kristoffersen<sup>1</sup>, AW Franzke<sup>1</sup>, A Murgia<sup>2</sup>, RM Bongers<sup>2</sup>, CK van der Sluis<sup>1</sup>

<sup>1</sup>University of Groningen, UMCG, Department of Rehabilitation Medicine, GRONINGEN, Netherlands

<sup>2</sup>University of Groningen, UMCG, Center for Human Movement Sciences, GRONINGEN, Netherlands

**A-16: INTENSIVE WHEELED MOBILITY WORKSHOPS FOR PHYSIOTHERAPISTS AND OCCUPATIONAL THERAPISTS - A LESSON TO BE LEARNED**

Osnat Fliess Douer<sup>1</sup>, Amos Pollack<sup>2</sup>, Dalit Romem<sup>3</sup>, Elisheva Daube<sup>3</sup>

<sup>1</sup>Sylvan Adams Sport Institute at Tel Aviv University, TEL AVIV, Israel; <sup>2</sup>The Academic College at Wingate Isnatitute, NETANYA, Israel; <sup>3</sup>Rehabilitation and Mobility Unit, Ministry of Health, Israel Government, TEL AVIV, Israel

17.00 Welcome Reception with refreshments

*The Drinks are offered to you by the University of Groningen, the Municipality of Groningen and the Province of Groningen*

**Theme: Big data / Machine learning**

**Chair: Prof Thomas Janssen**

18.00 Keynote 3

**Prof Andreas Daffertshofer**

18.45 Awards Ability Battle Hackathon

19.15 – 21.30 Buffet at the Restaurant of the University Medical Center Groningen

## Program Thursday, December 13, 2018

### Exercise

08.00 Registration with coffee & tea  
Upload Desk Open

#### **Theme: Adapted Physical Activity**

**Chair: Dr. Sonja de Groot**

08.30 Keynote Lecture 4  
**Dr. Kathleen Martin Ginis**

#### **Session 5: Adapted Physical Activity**

**Chairs: Dr. Karin Gerrits & Dr. Noël Keijsers**

09.15 Oral presentations (4)

#### **B-17: RE-AIM ANALYSIS OF A CANADIAN PEER MENTORING PROGRAM THAT PROMOTES PHYSICAL ACTIVITY**

RB Shaw<sup>1</sup>, SN Sweet<sup>2</sup>, KR Todd<sup>1</sup>, WK Adair<sup>3</sup>, CB McBride<sup>4</sup>, HL Flaro<sup>5</sup>, KA Martin-Ginis<sup>1</sup>

<sup>1</sup>The University of British Columbia, KELOWNA, Canada; <sup>2</sup>McGill University, MONTREAL, Canada

<sup>3</sup>SCI Canada, TORONTO, Canada; <sup>4</sup>SCI British Columbia, VANCOUVER, Canada; <sup>5</sup>Ability New Brunswick, FREDERICTON, Canada

#### **B-18: INTERRATER AND INTRARATER RELIABILITY OF VENTILATORY THRESHOLDS DETERMINED IN PEOPLE WITH SPINAL CORD INJURY**

I Kouwijzer<sup>1</sup>, R.E. Cowan<sup>2</sup>, J.L. Maher<sup>2</sup>, F. Groot<sup>3</sup>, F. Riedstra<sup>3</sup>, L.J.M. Valent<sup>1</sup>, L.H.V. Van der Woude<sup>4</sup>, S. De Groot<sup>5</sup>

<sup>1</sup>Heliomare Rehabilitation Center, WIJK AAN ZEE, Netherlands; <sup>2</sup>University of Miami, MIAMI, United States of America; <sup>3</sup>Sport- en Beweegkliniek, HAARLEM, Nederland; <sup>4</sup>University of Groningen, GRONINGEN, Netherlands;

<sup>5</sup>Reade, AMSTERDAM, Netherlands

#### **B-19: CARDIOVASCULAR RISK FACTORS AND LEISURE TIME PHYSICAL ACTIVITY AMONG OLDER ADULTS WITH SPINAL CORD INJURY**

S.J. Jörgensen<sup>1</sup>, LS Magnusson<sup>1</sup>, SS Svedevall<sup>1</sup>, KMG Martin Ginis<sup>2</sup>, J.L. Lexell<sup>3</sup>

<sup>1</sup>Lund University, Skåne University Hospital, LUND, Sweden; <sup>2</sup>School of Health and Exercise Sciences, University of British Columbia, KELOWNA, Canada; <sup>3</sup>Lund University, Skåne University Hospital/Uppsala University, LUND, Sweden

#### **B-20: ADAPTED PHYSICAL ACTIVITY AND FUNCTIONAL CAPACITY OF ADULTS WITH INTELLECTUAL DISABILITY OVER 40 YEARS-OLD**

SS Santos, JR Ramos, ME Estevens, ES Sousa, FG Gomes

CRUZ QUEBRADA, Portugal

10.15 Coffee break & Exhibition & Posters

## Session 6: ADL Implementation Guidelines

**Chairs: Dr. Janneke Stolwijk & Dr. Monique Berger**

10.45 Oral presentations (4)

### **B-21: PHYSICAL ACTIVITY AMONG PEOPLE WITH SPINAL CORD INJURY: A COMPARISON BETWEEN THE NETHERLANDS AND CANADA**

F. Hoekstra<sup>1</sup>, S. de Groot<sup>2</sup>, J. Bruin<sup>3</sup>, L.H.V. van der Woude<sup>4</sup>, T. Hoekstra<sup>3</sup>, M.W.M. Post<sup>5</sup>, K.A. Martin Ginis<sup>1</sup>

<sup>1</sup>University of British Columbia, KELOWNA, Canada; <sup>2</sup>Amsterdam Rehabilitation Research Centre, Reade, AMSTERDAM, Netherlands; <sup>3</sup>Vrije Universiteit Amsterdam, AMSTERDAM, Netherlands; <sup>4</sup>University of Groningen, University Medical Center Groningen, GRONINGEN, Netherlands; <sup>5</sup>UMCG/RuG/Kenniscentrum Revalidatiegeneeskunde Utrecht, GRONINGEN, Netherlands

### **B-22: A PARTICIPANT-LED PHYSICAL ACTIVITY PROGRAMME FOR DISABLED PEOPLE WHO ARE READY TO BECOME PHYSICALLY ACTIVE**

E.A. Jaarsma, B. Smith

University of Birmingham, BIRMINGHAM, United Kingdom

### **B-23: DEVELOPMENT AND VALIDATION OF PHYSICAL ACTIVITY PRACTICE GUIDES FOR AMPUTEES**

MPL Pacheco Lopes<sup>1</sup>, LMP Moniz-Pereira<sup>2</sup>

<sup>1</sup>Faculty of Human Kinetic, University of Lisbon, CRUZ QUEBRADA, Portugal

<sup>2</sup>CIPER, Faculty of Human Kinetics, University of Lisbon, CRUZ QUEBRADA, Portugal

### **B-24: LONGITUDINAL ASSOCIATIONS BETWEEN ACTIVITY PACING, FATIGUE, AND PHYSICAL ACTIVITY IN ADULTS WITH MULTIPLE SCLEROSIS**

US Abonie<sup>1</sup>, S Bregje<sup>2</sup>, F Hoekstra<sup>2</sup>, T Hoekstra<sup>2</sup>, CP Van der Schans<sup>2</sup>, R Dekker<sup>2</sup>, LHV Van der Woude<sup>2</sup>, FJ Hettinga<sup>1</sup>

<sup>1</sup>School of Sport, Rehabilitation and Exercise Sciences, University of Essex, COLCHESTER, United Kingdom

<sup>2</sup>University of Groningen, University Medical Center Groningen, Center for Human S, GRONINGEN, Nederland

## **Poster session 1**

11.45 Poster session

*Abstracts with even code numbers (P2, P4, etc.)*

12.30 Lunch break & Exhibition & Posters

## **Theme: Exercise Physiology**

**Chair: Dr. Han Houdijk**

13.45 Keynote Lecture 5

**Prof. John Buckley**

## **Session 7: Clinical Exercise Physiology**

**Chairs: Dr. Nicole Voet & Dr. Casper van Koppenhagen**

14.30 Oral presentations (4)

### **B-25: HOT BATHS: AN EFFECTIVE SUPPLEMENT TO EXERCISE IN DISABILITY?**

C.A. Leicht<sup>1</sup>, S.P. Hoekstra<sup>1</sup>, S. Faulkner<sup>2</sup>, N.C. Bishop<sup>1</sup>, F. Tajima<sup>3</sup>, V.L. Goosey-Tolfrey<sup>1</sup>

<sup>1</sup>Loughborough University, LOUGHBOROUGH, United Kingdom; <sup>2</sup>Nottingham Trent University, NOTTINGHAM, United Kingdom;

<sup>3</sup>Wakayama Medical University, WAKAYAMA, Japan

### **B-26: PEAK OXYGEN UPTAKE IN DIFFERENT UPPER-BODY EXERCISE MODES - A META-ANALYSIS**

JK Baumgart, B Brurok, Ø Sandbakk

Centre for Elite Sports Research, TRONDHEIM, Norway

### **B-27: DIFFERENCES IN EXERCISE EFFECTS FROM STATIC VERSUS DYNAMIC STANDING IN NON-AMBULATORY CHILDREN WITH CEREBRAL PALSY**

ÅB Tornberg<sup>1</sup>, V Hansson<sup>2</sup>, A Jakobsson<sup>2</sup>, K Lauruschkus<sup>1</sup>

<sup>1</sup>Department of Health Sciences, Lund University, LUND, Sweden

<sup>2</sup>Mathematical Sciences, Lund University, LUND, Sweden

**B-28: EFFECT OF RESPIRATORY MUSCLE TRAINING ON EXERCISE CAPACITY AND RESPIRATORY MECHANICS IN ATHLETES WITH TETRAPLEGIA**

C.R. West<sup>1</sup>, C.M. Gee<sup>1</sup>, A.M. Williams<sup>1</sup>, A.W. Sheel<sup>2</sup>, N.D. Eves<sup>2</sup>

<sup>1</sup>ICORD/University of British Columbia, VANCOUVER, Canada; <sup>2</sup>University of British Columbia, VANCOUVER, Canada

15.30 Tea break & Exhibition & Posters

**Session 8: Measurement during daily life**

**Chairs: Dr. Rita van den Berg & Dr. Rienk van der Slikke**

16.00 Oral presentations (5)

**B-29: ACTIVITY AND MOBILITY USING TECHNOLOGY (AMOUNT) REHABILITATION TRIAL- DESCRIPTION OF COMMUNITY PHASE INTERVENTION**

LM Hassett<sup>1</sup>, MEL Van den Berg<sup>2</sup>, H Weber<sup>2</sup>, S Chagpar<sup>3</sup>, S Wong<sup>4</sup>, A Rabie<sup>4</sup>, K Schurr<sup>4</sup>, MA McCluskey<sup>5</sup>, R Lindley<sup>6</sup>, M Crotty<sup>2</sup>, C Sherrington<sup>3</sup>

<sup>1</sup>School of Public Health/Faculty of Health Sciences, University of Sydney, SYDNEY, Australia; <sup>2</sup>Department of Rehabilitation, Aged and Extended Care, Flinders University, ADELAIDE, Australia; <sup>3</sup>School of Public Health, University of Sydney, SYDNEY, Australia; <sup>4</sup>South Western Sydney Local Health District, SYDNEY, Australia; <sup>5</sup>Faculty of Health Sciences, University of Sydney, SYDNEY, Australia; <sup>6</sup>Westmead Clinical School, University of Sydney, SYDNEY, Australia

**B-30: RECOVERY OF EXERCISE CAPACITY IN PEDIATRIC BURN PATIENTS: A PRELIMINARY INVESTIGATION**

M. Akkerman<sup>1</sup>, L.J. Mouton<sup>2</sup>, S. de Groot<sup>3</sup>, A.S. Niemeijer<sup>4</sup>, S.M.H Scholten-Jaegers<sup>5</sup>, M.E. van Baar<sup>6</sup>, M.M. Stoop<sup>7</sup>, L.H.V. van der Woude<sup>2</sup>, M.K. Nieuwenhuis<sup>5</sup>

<sup>1</sup>Association of Dutch Burn Centres, GRONINGEN, Netherlands; <sup>2</sup>Center for Human Movement Sciences, University of Groningen, UMCG, GRONINGEN, Netherlands; <sup>3</sup>Amsterdam Rehabilitation Research Center | Reade, AMSTERDAM, Netherlands; <sup>4</sup>Martini Academy, Martini Hospital, GRONINGEN, Netherlands; <sup>5</sup>Association of Dutch Burn Centres, Burn Centre Martini Hospital, GRONINGEN, Netherlands; <sup>6</sup>Association of Dutch Burn Centres, Burn Centre Maasstad Hospital, ROTTERDAM, Netherlands; <sup>7</sup>Association of Dutch Burn Centres, Burn Centre Red Cross Hospital, BEVERWIJK, Netherlands

**B-31: ECOLOGICAL MOMENTARY ASSESSMENT OF EXERCISE AND NEUROPATHIC PAIN EXPERIENCED BY MEN WITH SCI: PARTICIPANT PERCEPTIONS**

K.R. Todd, R.B. Shaw, K.A. Martin Ginis

University of British Columbia, KELOWNA, Canada

**B-32: ARE AMBULATORY PEOPLE WITH SPINAL CORD INJURY 'AT RISK' FOR INACTIVITY AFTER REHABILITATION?**

K Postma<sup>1</sup>, H.J.G. van den Berg-Emons<sup>2</sup>, J.B.J Bussmann<sup>3</sup>, T. van Diemen<sup>4</sup>, M.W.M. Post<sup>5</sup>

<sup>1</sup>Erasmus MC, ROTTERDAM, Nederland; <sup>2</sup>Erasmus MC, University Medical Center Rotterdam, ROTTERDAM, Nederland; <sup>3</sup>ErasmusMC, ROTTERDAM, Netherlands; <sup>4</sup>Sint Maartenskliniek/De Hoogstraat/UMCG, Nederland; <sup>5</sup>UMCG/RuG/Kenniscentrum Revalidatiegeneeskunde Utrecht, GRONINGEN, Netherlands

**B-33: HIGH-INTENSITY INTERVAL TRAINING IN YOUTH WITH PHYSICAL DISABILITIES**

M. Zwinkels<sup>1</sup>, T Takken<sup>2</sup>, J.M.A. Visser-Meily<sup>3</sup>, O Verschuren<sup>4</sup>

<sup>1</sup>UMC Utrecht and De Hoogstraat Rehabilitation, UTRECHT, Nederland; <sup>2</sup>Child Development and Exercise Center, UMC Utrecht, UTRECHT, Nederland; <sup>3</sup>Department of Rehabilitation, Physical Therapy Science & Sports, UMC Utrecht, UTRECHT, Nederland; <sup>4</sup>Center of Excellence for Rehabilitation Medicine, UMC Utrecht and De Hoogstraat, UTRECHT, Nederland

17.15 Break with refreshments

**Theme: Data & Society**

**Chair: Dr. Riemer Vegter**

18.00 Keynote Lecture 6

**Dr. Bert Mulder**

18.45 Closing

*Walk to the Academy Building*

19.00 Buffet at the Academy Building (University of Groningen)

22.00 - Pub Tour

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REHABILITATION: MOBILITY, EXERCISE & SPORTS

## Program Friday, December 14, 2018

### Sports

08.00 Registration with coffee & tea  
Upload Desk Open

#### **Theme: Paralympic research future**

**Chair: Dr. Rienk Dekker**

08.30 Keynote Lecture 7  
**Prof Walter Thompson**

#### **Session 9: Technological performance enhancement**

**Chairs: Dr. Herman Holtslag & Dr. Monique Berger**

09.15 Oral presentations (4)

#### **C-34: KINEMATICS, KINETICS AND MUSCULAR ACTIVITY OF 15-S ALL-OUT HANDCYCLING EXERCISE IN ABLE-BODIED PARTICIPANTS**

O. J. Quittmann<sup>1</sup>, T. Abel<sup>1</sup>, K. Albracht<sup>2</sup>, H.-K. Strüder<sup>1</sup>

<sup>1</sup>German Sport University Cologne, COLOGNE, Germany

<sup>2</sup>FH Aachen University of Applied Sciences, AACHEN, Germany

#### **C-35: ANALYSIS OF GROUND REACTION FORCES BY FOREARM CRUTCHES DURING INSTEP KICK IN AMPUTEE FOOTBALL**

T.K Kobayashi<sup>1</sup>, Y.U Urabe<sup>1</sup>, H.F. Fujishita<sup>2</sup>, J.S Sasadai<sup>1</sup>, N.M Maeda<sup>1</sup>

<sup>1</sup>Hiroshima University, HIROSHIMA, Japan

<sup>2</sup>Hiroshima University Hospital, HIROSHIMA, Japan

#### **C-36: HOW DO WHEELCHAIR COURT SPORTS COMPARE REGARDING WHEELCHAIR MOBILITY PERFORMANCE?**

R.M.A. van der Slikke<sup>1</sup>, M.A.M. Berger<sup>1</sup>, D.J.J. Bregman<sup>2</sup>, H.E.J. Veeger<sup>2</sup>

<sup>1</sup>The Hague University of Applied Sciences, DEN HAAG, Netherlands

<sup>2</sup>Delft University of Technology, DELFT, Nederland

#### **C-37: THE NEED FOR PARA-CYCLING CLASSIFICATION RESEARCH**

C.F.J. Nooijen, J. Liljedahl, A. Bjerkefors, T. Arndt

Swedish School of Sport and Health Sciences (GIH), STOCKHOLM, Sweden

10.15 Coffee break & Exhibition & Posters

## Session 10: Physical performance enhancement

**Chairs: Dr. Sonja de Groot & Prof DirkJan Veeger**

10.45 Oral presentations (4)

### C-38: PERIOD PREVALENCE AND POINT PREVALENCE OF SPORTS-RELATED INJURIES AND ILLNESSES IN SWEDISH PARALYMPIC ATHLETES

KF Fagher<sup>1</sup>, ÖD Dahlström<sup>2</sup>, JJ Jacobsson<sup>2</sup>, TT Timpka<sup>2</sup>, JL Lexell<sup>1</sup>

<sup>1</sup>Rehabilitation Medicine Research Group, Lund University, LUND, Sweden

<sup>2</sup>Athletics Research Center, Linköping University, LINKÖPING, Sweden

### C-39: EFFECT OF RESPIRATORY MUSCLE TRAINING ON PULMONARY AND CARDIOVASCULAR FUNCTION IN ATHLETES WITH TETRAPLEGIA

CM Gee, AM Williams, AW Sheel, ND Eves, CR West

VANCOUVER, Canada

### C-40: ONABOTULINUMTOXIN A INJECTION FOR NEUROGENIC DETRUSOR OVERACTIVITY AND UPPER BODY EXERCISE PERFORMANCE IN WHEELCHAIR ATHLETES

C Perret, J Pannek

Swiss Paraplegic Centre, NOTTWIL, Switzerland

### C-41: THE INFLAMMATORY RESPONSE TO EXERCISE IN SPINAL CORD INJURED INDIVIDUALS-THE INFLUENCE OF AUTONOMIC FUNCTION

SP Hoekstra<sup>1</sup>, CA Leicht<sup>1</sup>, YI Kamijo<sup>2</sup>, T Kinoshita<sup>2</sup>, BT Stephenson<sup>1</sup>, VL Goosey-Tolfrey<sup>1</sup>, NC Bishop<sup>1</sup>, F Tajima<sup>2</sup>

<sup>1</sup>Loughborough University, LOUGHBOROUGH, United Kingdom

<sup>2</sup>Wakayama Medical University, WAKAYAMA, Japan

## Poster session 2

11.45 Poster session

*Abstracts with odd code numbers (P1, P3, etc.)*

12.30 Lunch break & Exhibition & Posters

## Theme: Active Living / Recreational sports

**Chair: Prof Luc van der Woude**

13.45 Keynote Lecture 8

**Prof Brett Smith**

## Session 11: Recreational Sports

**Chairs: Dr. Riemer Vegter & Dr. Noel Keijsers**

14.30 Oral presentations (4)

### C-42: UNDERSTANDING THE TRANSITION INTO ELITE DISABILITY SPORT

A Papatomas<sup>1</sup>, T Paulson<sup>2</sup>

<sup>1</sup>Loughborough University, LOUGHBOROUGH, United Kingdom; <sup>2</sup>English Institute of Sport, MANCHESTER, United Kingdom

### C-43: SCAPULA CLUSTER AND MULTYBODY OPTIMIZATION FOR SCAPULAR TRACKING DURING WHEELCHAIR OVERHEAD SPORTS

D. Haering<sup>1</sup>, S. Hybois<sup>2</sup>, J. Bascou<sup>3</sup>, F. Lavaste<sup>2</sup>, H. Pillet<sup>2</sup>, P. Fodé<sup>2</sup>, C. Sauret<sup>2</sup>

<sup>1</sup>ENSAM, PARIS, France; <sup>2</sup>Institut de Biomécanique Humaine Georges Charpak, PARIS, France

<sup>3</sup>CERAH, CRÉTEIL, France

### C-44: OXYGEN SATURATION PROFILE OF PARTICIPANTS OF THE 2017 BRAZILIAN SCHOLARSHIP PARALYMPIC GAMES

JIG Gorla<sup>1</sup>, JFF Fernandes Filho<sup>2</sup>, AACCS Costa e Silva<sup>3</sup>, JRB Buratti<sup>1</sup>, NC Souza<sup>1</sup>, DRC Callegari<sup>4</sup>, CDN Nogueira<sup>5</sup>, IBV Vieira<sup>6</sup>, AC Cliquet Junior<sup>7</sup>

<sup>1</sup>University of Campinas, CAMPINAS, Brazil; <sup>2</sup>Federal University of Rio de Janeiro, RIO DE JANEIRO, Brazil; <sup>3</sup>Federal University of Pará, BELÉM, Brazil; <sup>4</sup>State University of Maringá, MARINGÁ, Brazil; <sup>5</sup>Universidade Castelo Branco, RIO JANEIRO, Brazil; <sup>6</sup>San Antonio University of Murcia, MURCIA, Spain; <sup>7</sup>Faculty of Medical Sciences - University of Campinas, CAMPINAS, Brazil



**C-45: SPORTS PARTICIPATION, PHYSICAL ACTIVITY AND HEALTH-RELATED FITNESS IN YOUTH WITH CHRONIC DISEASES OR PHYSICAL DISABILITIES**

K.M. Lankhorst<sup>1</sup>, T. Takken<sup>2</sup>, M. Zwinkels<sup>3</sup>, F. Backx<sup>4</sup>, L. van Gaalen<sup>1</sup>, S. Te Velde<sup>1</sup>, O. Verschuren<sup>3</sup>, H. Wittink<sup>1</sup>, J. de Groot<sup>1</sup>  
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15.30            Tea break & Exhibition & Posters

**Theme: Athlete's perspective**

***Chair: Prof Thomas Janssen***

16.00            Keynote Lecture 9  
**Esther Vergeer**

16.45            Closing session