Time Table

	Wednesday	Thursday	Friday	Saturday
7:30 – 8:30		**8:15: Conference Opening**		
8:30 – 10:20		**S-1: Physical activity: measurement & general issues**	**S-5: Balance & Falls**	**S-9: Remote monitoring (8:30-10:10)**
10:20 – 11:00		**Coffee break & Poster Presentations (Part I)**	**Coffee break & Poster Presentations (Part II)**	**Coffee break (10:10-10:40)**
11:00 – 12:25		**S-2: Medical & Public Health Applications I**	**S-6: Ergonomics & Occupational Health**	**S-10: Psychology & Miscellaneous (10:40-11:45)** **S-11: "What next" and Conference Closing (11:45-13:00)**
12:25 – 14:00		**Lunch** **Workshop 1: PAM** **Workshop 2: Orthocare Innovations**	**Lunch** **Workshop 3: "Rotterdam AM"** **Workshop 4: McRoberts**	**Lunch (13:00-14:00)**
14:00 – 15:25	**W-1: Workshops** **15:00-16:00 W-1-1 "Rotterdam AM"** **16:00-17:30 W-1-2 "Falls Network"**	**S-3: Gait and 3D kinematic analysis outside the lab**	**S-7: Signal Processing & Analysis**	
15:35 – 16:05		**Coffee break & Poster Presentations (Part I)**	**Coffee break & Poster Presentations (Part II)**	
16:05 – 17:30		**S-4: Medical & Public Health Applications II**	**S-8: Energy Expenditure**	
	18:00-19:30: Welcome Reception at City Hall Rotterdam	17:15: Social Program "Historic tour through Rotterdam"	19:00 Boat Tour & Conference Dinner	

Registration is possible Wednesday in WTC (14:00-17:30) and in the City Hall (18:00-19:30), and during the conference from Thursday 7:30.

Wednesday May 21

Workshop session 1

W-1-1 Workshop "Ambulatory monitoring of physical activity and movement: The Rotterdam story" (15:00-16:00)

W-1-2 Workshop Fall Detection Network (16:00-17:30)

Thursday May 22

Conference opening (8:15-8:30)

Hans (J) B.J. Bussmann & Henk J. Stam

Session 1: Physical activity: measurement & general issues

Chairs: Greg J. Welk & Rita (H) J.G. van den Berg-Emons

Invited speakers

K-1-1 Assessment of physical activity with accelerometers
Klaas R. Westerterp
Maastricht University, the Netherlands

K-1-2 New frontiers in physical activity assessment with pattern recognition technology
Greg J. Welk
Iowa State University, Ames, USA

Free papers

O-1-1 Increasing our understanding of pedometer reactivity: what factors are involved?
Clemes SA
Loughborough University, Dept. of Human Sciences, Loughborough, Leicestershire, UK

O-1-2 Pedometry – a validation study
Müller C
Motion Analysis Lab, Orthopaedic Department, University Hospital Muenster, Germany

O-1-3 Activity monitoring: the monitor as a source of error

Stott NS
Department of Paediatric Orthopaedics , Starship Children's Hospital, Auckland, New Zealand

O-1-4 Validity and reliability of pedometers and accelerometers in children and adolescents

de Vries SI[1,2]
[1] TNO Quality of Life, Department of Physical Activity and Health, Leiden, The Netherlands, [2] Body@Work, Research Centre Physical Activity, Work and Health, TNO-VU University Medical Centre, Amsterdam, The Netherlands

O-1-5 Motion sensor output at high running speeds in children – the A-class project

Graves L[1, 2]
[1] Research Institute for Sport and Exercise Sciences, Liverpool John Moores University, Liverpool, UK, [2] The REACH (Research into Exercise, Activity and Child Health) Group, Research Institute for Sport and Exercise Sciences, Liverpool JMU, Liverpool, UK

Coffee break & poster presentations (Part I)

Thursday May 22

Session 2: Medical and public health applications 1

Chairs: Henk J. Stam & Jean Paysant

Invited speaker

K-2-1 Ambulatory activity monitoring: added value in medicine
Henk J. Stam
Dept. of Rehabilitation, Erasmus University Medical Center Rotterdam, the Netherlands

Free papers

O-2-1 Walking activity in children with the stepwatch3™
Bjornson KF[1,2]
[1] University of Washington, [2] Children's Hospital & Regional Medical Center, Seattle, WA 98105 USA

O-2-2 The association between functioning in a laboratory and daily life for low back pain patients
Huijnen IPJ
Department of Clinical Psychological Science, Maastricht University, Maastricht, The Netherlands

O-2-3 Changes in physical activity during and after inpatient rehabilitation in persons with spinal cord injury
van den Berg-Emons HJ
Department of Rehabilitation Medicine, Erasmus Medical Center, Rotterdam, The Netherlands

O-2-4 Cueing training improves ambulatory walking activity in patients with Parkinson's disease: the Rescue trial
Lim I
VU University Medical Center, The Netherlands

O-2-5 Ambulatory monitoring in large multi-site rehabilitation trials: lessons from EXCITE
Uswatte G
University of Alabama, Birmingham, USA

Lunch & workshops W-2

W-2-1 Workshop PAM: PAM Activity Monitor (12:30 – 13:10)

W-2-2 Workshop OrthoCare: The Stepwatch Activity Monitor (13:15 – 13:55)

Thursday May 22

Session 3: Gait and 3D kinematic analysis outside the lab

Chairs: Peter H. Veltink & Chris Baten

Invited speaker

K-3-1 Advances in ambulatory 3D analysis of human movement
Chris Baten
Roessingh R&D, the Netherlands

Free papers

O-3-1 Outdoor gait analysis using inertial and magnetic sensors – preliminary validation
Ferrari A[1,2]
[1] INAIL Prosthesis Centre, Research Area, Vigorso di Budrio (Bo), [2] DEIS, University of Bologna, Italy

O-3-2 Gait analysis using wearable sensors
Picerno P
Department of Human Movement and Sport Sciences, IUSM, Rome, Italy

O-3-3 Center of mass movement estimation using an ambulatory measurement system
Veltink PH
Institute for BioMedical Engineering (BMTI), University of Twente, Enschede, The Netherlands

O-3-4 Validity of the dynaport gaitmonitor for the assessment of prosthetic gait
Houdijk H[1,2]
[1] Heliomare Research and Development, Wijk aan Zee, The Netherlands, [2] Research Institute MOVE, Faculty of Human Movement Sciences, VU University, Amsterdam, The Netherlands

O-3-5 Obtaining basic gait characteristics with minimal instrumentation: possibilities and pitfalls
Zijlstra W
Center for Human Movement Sciences, University Medical Center Groningen, The Netherlands

Coffee break & poster presentations (Part I)

Thursday May 22

Session 4 : Medical and public health applications 2

Chairs: Gitendra Uswatte & Herwin L.D. Horemans

Free papers

O-4-1 Quantification of asymmetrical movement in children
Vander Linden DW
Eastern Washington University, Spokane, WA, USA

O-4-2 Physical activity during prolonged walking: influence of distance and gender
Eijsvogels TMH
Dept. of Physiology, Radboud University Nijmegen Medical Center, the Netherlands.

O-4-3 Use of ambulatory accelerometry to assess the Sit-to-Stand movement
Janssen WGM
Dept. of Rehabilitation Medicine, Erasmus MC, Rotterdam, the Netherlands

O-4-4 Physical activity in Dutch school children with cerebral palsy
Dallmeijer AJ
Dept. of Rehabilitation Medicine, VU University Medical Center, Amsterdam, The Netherlands

O-4-5 Compliance of physical activity guidelines in a working population using an objective monitoring technique
Chastin SFM
School of Health and Social Care, Glasgow Caledonian University, Glasgow, UK

Historic Tram Tour (17:15)

Friday May 23

Session 5: Balance and falls

Chairs: Kamiar Aminian & Wiebren Zijlstra

Invited speakers

K-5-1 Ambulatory systems for monitoring physical activity, gait & balance: technological issues in fall prevention in the elderly
Kamiar Aminian
Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland)

K-5-2 Use of a home telecare system and ambulatory monitor for movement classification and assessment of falls risk in the elderly
Nigel Lovell
University of New South Wales, Sydney, Australia

Free papers

O-5-1 Characterization of dynamic patterns of postural sway using accelerometry
Lamoth CJC
Research Institute MOVE, Faculty of Human Movement Sciences, VU University Amsterdam, The Netherlands

O-5-2 Automated quantification of missteps and near falls: algorithm development and preliminary results
Hausdorff JM[1,2,3]
[1]Laboratory for Gait & Neurodynamics & Movement Disorders Unit, Tel-Aviv Sourasky Medical Center, Tel-Aviv, Israel, [2]Dept Physical Therapy, Sackler School of Medicine, Tel-Aviv University, Tel-Aviv, Isarel, [3]Division on Aging, Harvard Medical School, Boston, MA, USA

O-5-3 A fall detector incorporated into a custom vest for the elderly
Bourke AK[1,3]
[1] Department of Electronic and Computer Engineering, University of Limerick, Limerick, Ireland, [3] NCBES, National University of Ireland, Galway, Ireland

O-5-4 Longitudinal biomarkers of stance posture and get-up-and-go parameters in parkinson's disease
Horak FB
Neurological Sciences Institute and Dept. Neurology, Oregon Health and Science University, Portland, Oregon, USA

O-5-5 The use of wearable inertial devices to detect postural changes in early parkinson's disease

Chiari L
Biomedical Engineering Unit, Department of Electronics, Computer Science & Systems, University of Bologna, Italy

Coffee break & poster presentations (Part II)

Friday May 23

Session 6: Ergonomics and occupational health

Chairs: Alex Burdorf & Masaaki Makikawa

Invited speaker

K-6-1 Strategies for assessment of posture and movement at the workplace
Alex Burdorf
Erasmus University Medical Center Rotterdam, the Netherlands

Free papers

O-6-1 Validation and application of inclinometers (triaxial accelerometers) for measuring postures and movements at the workplace
Hansson G-Å
Occupational and Environmental Medicine, University Hospital, Lund, Sweden.

O-6-2 Direct measures for exposure assessment of MSD physical risk factors for computer users
Dennerlein JT
Harvard School of Public Health, Boston, MA USA

O-6-3 The ability of computer activity recordings to estimate mechanical exposures during office work
Richter JM
Department of Neuroscience, Erasmus MC, Rotterdam, the Netherlands

O-6-4 MYOTEL: adressing motor behavior in neck shoulder pain by assessing and feedback sEMG in the daily (work) environment
Vollenbroek-Hutten MMR
Roessingh Research and Development, Enschede, The Netherlands

Lunch & Workshops W-3

W-3-1 Workshop Ambulatory Monitoring of Physical Activity and Movement: The Rotterdam Story (12:30 – 13:10)

W-3-2 Workshop McRoberts: Gait Variability and risk of falling (13:15 – 14.00)

Friday May 23

Session 7: Data processing & analysis

Chairs: Malcolm Granat & Andrea Giordano

Invited speaker

K-7-1 Long term free living physical activity data: What do we do with it?
Malcolm Granat
School of Health & Social Care, Glasgow Caledonian University, Glasgow, UK

Free papers

O-7-1 A comparison of different feature generation methods in activity classification
Goulermas JY
Department of Electrical Engineering and Electronics, University of Liverpool, Liverpool, UK

O-7-2 Activity monitoring in transfemoral amputees: added value of population-specific settings
Giordano A
Bioengineering Service, 'Salvatore Maugeri' Foundation, Clinica del Lavoro e della Riabilitazione, IRCCS, Veruno, Italy

O-7-3 Gait assessment system of the elderly using portable acceleration monitor device
Makikawa M
Dept. of Robotics, Faculty of Engineering and Science, Ritsumeikan Univ., Kusatsu, Japan

O-7-4 Continuous recognition of daily physical activities using a single triaxial accelerometer
Yin B
Philips Research, Biomedical Sensor Systems, Eindhoven, The Netherlands

O-7-5 Improved estimation of starting times of human activities using Hidden Markov modeling based activity classification?
Wassink RGV[12]
[1]Roessingh Res. & Dev., Enschede, The Netherlands. [2]Biomedical Signals & Systems, University of Twente, Enschede, The Netherlands

Coffee break & poster presentations (Part II)

Friday May 23

Session 8: Energy expenditure

Chairs: Klaas W. Westerterp & Sören Brage

Invited speaker

K-8-1 Issues and advances in ambulatory measurement of energy expenditure
Sören Brage
Institute of Metabolic Science, Cambridge, UK

Free papers

O-8-1 Resting heart rate improves energy expenditure prediction from accelerometer counts
Plasqui G
Maastricht University, The Netherlands

O-8-2 Physical activity energy expenditure of sedentary adults via heart rate, accelerometry and a branched algorithm
Browning RC
Center for Human Nutrition, University of Colorado, Denver, USA

O-8-3 Validation of Sensewear Armband during wheelchair propulsion
Wouda MF
Sunnaas Rehabilitation Hospital, Oslo, Norway

O-8-4 Validity of a seismic accelerometer for estimating energy expenditure under sedentary conditions
van Hees VT[1,2,3]
[1] Human Biology, University Maastricht, [2] Human Movement Sciences, VU University Amsterdam, [3]McRoberts B.V., The Hague

O-8-5 Validation of the SenseWear Pro Armband algorithms in children

Calabró MA
Iowa State University, Ames, IA, USA.

Boat Tour and Conference Dinner

Saturday May 24

Session 9: Remote monitoring

Chairs: Hermie Hermens & Nigel Lovell

Invited speakers

K-9-1 Towards monitoring motor recovery in subjects post stroke via wearable sensing technology
Paolo Bonato
Spaulding Rehabilitation Hospital/Harvard Medical School, Boston, USA

K-9-2 Towards remote monitoring and remotely supervised training
Hermie Hermens
Roessingh R&D, the Netherlands

Free papers

O-9-1 Combined activity monitor and web-service technology for improving physical activity
Goris AHC
Philips Research, Care & Health Applications, Eindhoven, The Netherlands

O-9-2 Adding embedded intelligence to a realtime wearable remote monitoring system: experiences with MAGIC
Meriggi P
Polo Tecnologico – Biomedical Technology Department, Fondazione Don Carlo Gnocchi Onlus, Milano, Italy

O-9-3 Sensorphone: wireless monitoring via the mobile telephone
Vlaskamp FJM
Vilans, Hoensbroek, The Netherlands

Coffee break

Saturday May 24

Session 10: Psychology & miscellaneous

Chairs: Uli Ebner-Priemer & Joke Tulen

Invited speaker

K-10-1 Ambulatory activity monitoring in psychology and psychiatry
Uli Ebner-Priemer
Central Institute of Mental Health, Mannheim, Germany

Free papers

O-10-1 Accelerometry to assess motor activity during sleep in adults with ADHD or Tourette's disorder
Tulen JHM
Department of Psychiatry, Erasmus MC, Rotterdam, The Netherlands

O-10-2 Time aspects of computer use across one year exposure: metrics and empirical findings
Slijper HP
Department of Neuroscience, Erasmus MC, Rotterdam, The Netherlands

O-10-3 Different activity sensors for sleep detection
Virkkala J[1,2]
[1]Sleep Laboratory, Brain Work Research Center, Finnish Institute of Occupational Health, Helsinki, Finland, [2]Department of Clinical Neurophysiology, Pirkanmaa Hospital District, Tampere, Finland

Saturday May 24

Session 11: Panel discussion: "What next?" & Conference closing

Chairs: Henk J. Stam & Hans (J) B.J. Bussmann

Lunch