

RACMEM-2011

Maastricht, Netherlands

Local Organising Committee:

Guy Plasqui, Kong Chen, Anders Sjödin, Ed Melanson, Paul MacLean, Klaas Westerterp

Scientific Program

Wednesday 2nd November

- 16:00 – 16:45 **NUTRIM Lecture:**
Caloric Restriction and Longevity: Do we live longer or does it just seem longer?
Eric Ravussin
- 16:45 – 17:15 **Official opening of the new Metabolic Research Unit**
- 17:15 – **RACMEM Welcome Reception**

Thursday 3rd November

- 08:15 – 08:30 **Welcome RACMEM-2011**
Guy Plasqui
- 08:30 – 09:15 **Keynote Lecture 1:**
Academic Genealogy and Direct Calorimetry: A Personal Account
Donald C. Jackson
Moderators: Guy Plasqui & Ed Melanson
- 09:15 – 10:25 **Session 1:**
Circadian Rhythm and Sleep: From Physiology to Pathophysiology
Moderators: Ed Melanson and Kumpei Tokuyama
- How can avoiding the most sedentary activity of all make us fat?
Ander Sjödin
 - Metabolic rate and fuel utilisation during sleep
Kumpei Tokuyama
 - Effect of 5 nights of sleep restriction on 24h energy expenditure, energy intake, and energy balance in humans
Rachel R. Markwald, Edward L. Melanson, Mark R. Smith, Janine A. Higgins, Leigh Perreault, Robert H. Eckel, Kenneth P. Wright Jr.
 - Inter-individual relationships between energy balance and SWS + REM sleep in normal weight men measured over 48h in controlled conditions in the respiration chamber
Femke Rutters, H. Gonnissen, R. Hursel, S. Lemmens, E. Martens, M.S. Westerterp-Plantenga
- 10:25 – 10:55 Coffee/tea break, combined with sponsor exhibition
- 10:55 – 12:35 **Session 2:**
Thermogenic Nutrients, Exercise and Substrate Utilisation
Moderators: Yves Schutz and Margriet Westerterp-Plantenga
- If I exercise today, how much fat will I burn? It depends
Ed Melanson

- Interaction but no synergism of thermogenic ingredients
Rick Hursel
- Effects of epigallocatechin-3-gallate (EGCG) and caffeine on processes of thermogenesis in men during mild cold exposure
C. Gosselin and F. Haman
- Thermogenesis and oxidative fuel selection during a 24h arctic survival simulation
BM Pinet, Hynes Z, Basset FA, McGarr GW, Hartley GL, Taber MJ, Ducharme MB, Cheung SS, Haman F.
- Is there a discrepancy in metabolic rate and substrate oxidation between sitting comfortably and lying down?
D Sarafian, Miles-Chan JL, Montani JP, Schutz Y, Dulloo AG.
- Counteracting energy restriction effects on hunger and energy expenditure with single or mixed bio-active ingredients
M. Westerterp-Plantenga, A Smeets, S. Lemmens, E Martens, P Janssens, R Hursel.

12:35 – 14:15

Lunch / Poster Session / Sponsor exhibition / Tour of new metabolic facilities

14:15 – 15:45

Session 3:

Room Calorimeters and Their Application: Past, Present and Future

Moderators: *Klaas Westerterp and Eric Ravussin*

- Understanding energy regulation - Some clinical calorimetric observations in the context of an established perspective
Peter Murgatroyd
- Back to the future: Making the tough choices in building and upgrading room calorimeters
Kong Chen
- The Fire Of Life rekindled: Indirect calorimetry evolves from experimental tool to metabolism trendsetter
Paul Schoffelen
- Traceable calibration for room calorimeters
Erica Wohlers, Jon Moon, Firoz Vohra, Nancy Butte
- Calculation of diet-induced thermogenesis in human metabolic chambers in the presence of exercise
RJ Brychta, Marinac CR, McMahon GC, Chen KY

15:45 – 16:05

Coffee/tea break, combined with sponsor exhibition

16:05 – 17:30

Session 4:

Clinical Applications

Moderators: *Anders Sjödin and Michael D. Jensen*

- Adipose tissue fatty acid trafficking in context of whole body energy metabolism
Michael D. Jensen
- Caloric restriction-like effects of 30 days of resveratrol (Resvidatm) supplementation on energy metabolism and metabolic profile in obese humans
Silvie Timmers, Ellen Konings, Lena Bilet, Tineke van de Weijer, Joris Hoeks, Sophie van der Krieken, Esther Moonen-Kornips, Gijs H. Goosens, Matthijs K.C. Hesselink, Iris Kunze, Vera B. Schrauwen-Hinderling, Ellen Blaak, Patrick Schrauwen

- Brown adipose tissue and cold-induced thermogenesis in morbidly obese subjects before and after bariatric surgery
Guy H.E.J. Vijgen, Nichole D. Bouvy, G.J. Jaap Teule, Boudewijn Brans, Patrick Schrauwen, Wouter D. van Marken Lichtenbelt
- Energy expenditure and body composition: defining the norm
Laura Watson, Pip Raymond-Barker, Krishna Chatterjee, David Savage, Les Bluck, Peter R Murgatroyd
- Amount of walking in daily life is related to the O₂ cost of walking in adults with bilateral spastic cerebral palsy
Hans Bussman, Slamán J, van den Berg-Emons HJG

17:35 – 18:15

Topical Debate: - Moderators: Abdul Dulloo, Kong Chen and Donald Jackson
Room Calorimeters: Why do we need them?
John Speakman vs. Eric Ravussin

19:00 –

Drinks and Conference Dinner

Friday 4th November

08:20 – 09:00

Keynote Lecture 2 - Moderators: Paul MacLean and John Speakman
What Constitutes Adaptive Thermogenesis in Body Composition Regulation?
Abdul Dulloo

09:00 – 10:25

Session 5:
Recent Advances in Animal Calorimetry
Moderators: Patrick Even and Paul MacLean

- Considerations for component analysis and normalization of energy expenditure data
Paul MacLean
- Component analysis of calorimetry data in free moving/feeding animals
Patrick Even
- Estimation of activity-related energy expenditure and resting metabolic rate from indirect calorimetry data in freely moving mice
Jan Bert van Klinken, Sjoerd A.A. van den Berg, Louis M. Havekes, Ko Willems van Dijk
- Attenuation of decreasing physical activity and improvement of metabolic cost for movement by long-term caloric restriction in rhesus monkeys
Yosuke Yamada, Ricki J. Coleman, Joseph W. Kennitz, Scott T. Baum, Rozalyn M. Anderson, Richard Weindruch, Dale A. Schoeller
- Energy expenditure from voluntary activity makes an insignificant contribution to whole organism energy balance in murine calorimetry
Sam Virtue and Antonio Vidal-Puig

10:25 – 10:50

Coffee/tea break, combined with sponsor exhibition

10:50 – 12:30

Session 6:
Adaptive Thermogenesis
Moderators: Anja Bosy-Westphal and Wouter van Marken Lichtenbelt

- Brown adipose tissue thermogenesis and whole body energy expenditure in adult humans
Wouter van Marken Lichtenbelt

- Adaptive thermogenesis, glucose-induced thermogenesis and activity energy expenditure during controlled over- and underfeeding
Anja Bosy-Westphal, Wiebke Later, Merit Lagerpusch, Janna Enderle, Ben Eggeling, Ulrike Preuss, Detlef Pape, Manfred J Müller
- Contribution of brown adipose tissue to whole-body energy expenditure in humans
Masayuki Saito, Sayuri Aita, Takeshi Yoneshiro
- Brown adipose tissue volume correlates inversely to shivering intensity in cold-exposed men
Denis P Blondin, Sébastien M Labbé, Denis Richard, Eric E. Turcotte, André C. Carpentier, François Haman
- Adaptive thermogenesis in girls with varying body fat content
Verena Haas, D. Stark, K Gaskin, M. Kohn, S. Clarke, MJ Müller
- Nonshivering thermogenesis and its adequate measurement in metabolic studies
Jan Nedergaard and Barbara Cannon

12:30 – 13:55

Lunch / Poster Session / Sponsor exhibition / Tour of new metabolic facilities

13:55 – 15:30

Session 7:

Accelerometry, Physical Activity and Energy Expenditure

Moderators: Kong Chen and Guy Plasqui

- Habitual physical activity assessment with accelerometers: new insights and validation studies
Guy Plasqui
- Improved activity energy expenditure assessment with activity-type specific equations based on accelerometer activity counts
Alberto Bonomi, Carol Morosi, Antonio Latorre, Niek Lamberts, Fancesco Sartor
- How much do we NEAT?
Bernard Duvivier, Michelle A. Bremers, Antonis Antoniou, Marleen Kars, Nicolaas C. Schaper, Hans H.C.M Savelberg
- The study of physical activity by biomechanical modeling, motion sensors and whole-room indirect calorimeter
Kuan Zhang, F. Xavier Pi-Sunyer, Zhicheng Liu
- A new method to estimate energy expenditure from abdominal and rib cage distances
Gastinger S, Nicolas G, Sorel S, Sefat H, Prioux J
- Accuracy of a combined heart rate and motion sensor for the measurement of energy expenditure in elite junior basketball players
DA Santos, Silva AM, Matias CN, Sardinha LB

15:30 – 16:05

Session 8:

Controversies

Moderators: Jan Nedergaard and Lilian De Jonge

- Energy gap assessment in the aetiology of the obesity epidemic in the UK and USA: From multiple assumptions to flawed conclusions?
Yves Schutz, Nuala M. Byrne, Abdul Dulloo, Andrew P. Hills
- Decreased energy expenditure upon cold exposure: Possible role of Arrhenius Law?
Boris Kongma, Frijns AJH, Saris WHM, van Steenhoven AA, van Marken Lichtenbelt WD

16:05 – 16:30

Coffee/tea break, combined with sponsor exhibition

16:30 – 17:05

Maastricht Instruments Best Abstract Awards:

Moderators: Guy Plasqui, Ed Melanson, Kong Chen, Paul MacLean, Ander Sjödin

- Quality sleep and energy balance
Hanne Gonnissen, Hursel R, Rutters F, Martens E, Westerterp-Plantenga M.
- Compensatory mechanisms in response to an increase in aerobic exercise energy expenditure
Mads Rosenkilde, Pernille Auderbach, Michala Reichkender, Thorkil Ploug, Bente Stallknecht, Anders Sjödin

17:05 – 17:45

Keynote Lecture 3:

Movement in Energy Balance

Klaas Westerterp

Moderators: Guy Plasqui, Ed Melanson, Kong Chen, Paul MacLean, Ander Sjödin

17:45 –

Closing Remarks

Guy Plasqui