# Physiology of Exercise and Health

## Sunday, August 18

**Afternoon**  
**18:00**  
**DINNER**

## Monday, August 19

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>08:00 – 08:45</td>
<td><strong>BREAKFAST</strong></td>
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| 08:45 – 09:00 | **WELCOME**  
By Niels Ørtenblad, Ylva Hellsten, and Kristian Overgaard        |
| 09:00 – 09:40 | **Generic lecture**  
Chair: Robert Boushel  
**Presenting scientific findings; the art of the talk**  
Morten Zacho                                              |
| 09:40 – 10:00 | **COFFEE BREAK**                                                     |
| 10:00 – 12:00 | **Metabolic regulation in exercise and health**  
Chairs: David Wright and Jørgen Wojtaszewski  
**Mitochondria in health and disease**  
Mary-Ellen Harper  
**Mitochondrial function in exercise and ageing**  
Henriette Pilegaard  
**IL-6 as an energy allocator**  
Helga Ellingsgaard |
| 12:00 – 13:00 | **LUNCH**                                                           |


**Monday, August 19 (Continued)**

13:00 – 15:00  
**Influence of sex hormones on performance and adaptation to training**  
Chairs: Ylva Hellsten and Mary-Ellen Harper

**Influence of sex hormones on sport performance and adaptation to training in females**  
Mette Hansen

**Hyperandrogenism and the role of testosterone for physical performance in elite female athletes**  
Angelica Lindén Hirschberg

**Sex-based differences in fuel storage and metabolism at rest and during exercise**  
Michaela Devries-Aboud

15:00 – 16:00  
**Discussion Forum including Coffee Break**

16:00 – 18:00  
**Poster session 1**  
Chairs: Joachim Nielsen and Yael Nossent; Mette Hansen and William Sheel

18:00 – 19:00  
DINNER

19:30 – 20:30  
**Evening talk**  
Chair: Jørgen Wojtaszewski

**Digesting snakes is a feast for integrative physiology**  
Tobias Wang
**Tuesday, August 20**

08:00 – 09:00  BREAKFAST

09:00 – 11:00  **Couch conversation and discussion**

11:00 – 11:20  COFFEE BREAK

11:20 – 12:00  **Generic lecture**
               Chair: Ylva Hellsten

               **Publishing in a world of metrics**
               Joachim Nielsen

12:00 – 13:00  LUNCH

13:00 – 14:20  **Drug and exercise interactions (3 x 20 min + 20 min discussion)**
               Chairs: Bente Klarlund Pedersen and Morten Hostrup

               **Effects of farmaka on training adaptations and metabolism**
               Flemming Dela

               **Glucocorticoids, exercise and connective tissue**
               Michael Kjaer

               **Influence of Antipsychotic drugs on exercise-induced adaptations**
               David Wright

14:20 – 16:00  **Discussion Forum including Coffee break**

16:00 – 18:00  **Poster session 2**
               Chairs: Mathias Ried-Larsen and Terry Graham; Graham Fraser and Helga Ellingsgaard

18:00 – 19:00  DINNER

19:30 – 20:30  **Evening talk**
               Chair: Niels Ørtenblad

               “**All singing, all dancing**”
               Coen Elemans
Wednesday, August 21

08:00 – 09:00  BREAKFAST

09:00 – 12:00  The cardiovascular system
Chairs: Robert Boushel and Jørn W. Helge

Regulation of skeletal muscle microcirculation
Graham Fraser

Influence of respiratory work on blood flow distribution during exercise
William Sheel

COFFEE BREAK (10:20 – 10:40)

Regulation and function of skeletal muscle capillaries
Ylva Hellsten

Small non-coding RNA’s and their modifications; molecular communicators in exercise-induced adaptations in the cardiovascular system
Yael Nossent

12:00 – 13:00  LUNCH

13:00 – 16:00  Muscle function and E-C coupling
Chairs: Jørn W. Helge and Kristian Overgaard

Muscle ionic shifts and fatigue during whole body exercise in humans
Morten Hostrup

Experimental studies in muscle function using isolated muscles
Kristian Overgaard

COFFEE BREAK (14:20 – 14:40)

Muscle activation and E-C coupling
Niels Ørtenblad

Do different subcellular glycogen pools serve different purposes
Joachim Nielsen

16:00 – 18:00  Discussion Forum

18:00 – 19:00  DINNER

19:30 – 20:30  Evening talk
Chair: Bente Klarlund Pedersen

Integrative perspective of exercise physiology: The Bengt Saltin approach
Robert Boushel and Jerome Dempsey
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<td><strong>Turning a PhD project into medicine</strong>&lt;br&gt;Thomas Holm Pedersen</td>
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<td>10:00 – 12:00</td>
<td><strong>How do we interpret and understand complex data?</strong>&lt;br&gt;Chairs: Niels Ørtenblad and Flemming Dela</td>
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<td><strong>Using and interpreting the omics approach</strong>&lt;br&gt;Jørgen Wojtaszewski</td>
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<td><strong>Analytical strategies using large cohort studies</strong>&lt;br&gt;Mathias Ried-Larsen</td>
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<td><strong>Dense long-term monitoring of behavioural and biological data in free-living environments</strong>&lt;br&gt;Anders Grøntved</td>
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<td>12:00 – 12:30</td>
<td><strong>Course evaluation and wrap up</strong></td>
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<td>LUNCH AND DEPARTURE</td>
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### Speakers, Chairs and Organizers

**Anders Grøntved**  
Professor, Dept of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark

**Angelica Lindén Hirschberg**  
Professor/specialist physician, Department of Women´s and Children´s Health, Karolinska Institute, Stockholm, Sweden

**Anne Yaël Nossent**  
Visiting Professor, The August Krogh Section for Human Physiology, Faculty of Science, University of Copenhagen, Denmark

**Bente Klarlund Pedersen**  
Professor and Centre Director, Centre for Physical Activity Research, Rigshospitalet, University of Copenhagen, Denmark

**Coen P.H. Elemans**  
Professor, Department of Biology, Syddansk Universitet, Odense, Denmark

**David Wright**  
Professor, Kinesiology, Faculty of Land and Food Systems, University of British Columbia, Vancouver, Canada

**Emil G. Toft**  
Course Secretary, Centre for Physical Activity Research, Rigshospitalet and University of Copenhagen, Denmark

**Flemming Dela**  
Professor, Xlab, Center for Healthy Aging, Dept of Biomedical Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark

**Graham M. Fraser**  
Assoc. Professor, BioMedical Sciences, Faculty of Medicine, Memorial University of Newfoundland, St. John’s, Canada

**Helga Ellingsgaard**  
Senior Researcher, Group leader, PhD., Centre of Physical Activity Research, Rigshospitalet, University of Copenhagen, Denmark

**Henriette Pilegaard**  
Professor, Cell Biology and Physiology, Dept of Biology, Faculty of Science, University of Copenhagen, Denmark

**Inge Holm**  
Head of Section, Administration, Centre for Physical Activity Research, Rigshospitalet and University of Copenhagen, Denmark
Jerome A. Dempsey  
Professor, Dept. of Population Health Sciences, University of Wisconsin, Madison, USA

Joachim Nielsen  
Assoc. Professor, Dept of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark

Jørgen Wojtaszewski  
Professor, The August Krogh Section for Molecular Physiology, Faculty of Science, University of Copenhagen, Denmark

Jørn W. Helge  
Professor, Xlab, Center for Healthy Aging, Dept of Biomedical Sciences, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark

Kristian Overgaard  
Professor, Dept of Public Health – Sport Science, Aarhus University, Aarhus, Denmark

Mary-Ellen Harper  
Professor and Director, Dept of Biochemistry, Microbiology and Immunology, The Ottawa Institute of Systems Biology, University of Ottawa, Ottawa, Canada

Mathias Ried-Larsen  
Senior Researcher, Group leader, PhD., Centre of Physical Activity Research, Rigshospitalet, University of Copenhagen, Denmark

Mette Hansen  
Assoc. Professor, Dept of Public Health – Sport Science, Aarhus University, Aarhus, Denmark

Michael Kjær  
Professor, Dept of Clinical Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark

Michaela Devries-Aboud  
Assoc. Professor, Dept of Kinesiology and Health Sciences, Faculty of Health, University of Waterloo, Waterloo, Canada.

Morten Hostrup  
Assoc. Professor, The August Krogh Section for Human Physiology, Faculty of Science, University of Copenhagen, Denmark

Morten Zacho  
External Assoc Prof., University of Southern Denmark, and Senior Manager, Kompan Fitness Institute, Denmark

Niels Ørtenblad  
Professor, Dept of Sports Science and Clinical Biomechanics, University of Southern Denmark, Odense, Denmark
Robert Boushel
Professor and Director, School of Kinesiology, Faculty of Education, University of British Columbia, Vancouver, Canada

Terry Graham
Professor, Human Health and Nutritional Sciences, University of Guelph, Canada

Thomas Holm Pedersen
Assoc. Professor, Dept of Biomedicine, Aarhus University, Aarhus, Denmark

Tobias Wang
Professor, Dept of Biology – Zoophysiology, Aarhus University, Aarhus, Denmark

William Sheel
Professor, Kinesiology, Faculty of Education, University of British Columbia, Vancouver, Canada

Ylva Hellsten
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