



# The 2024 Saltin International Graduate Course in Exercise & Clinical Physiology

August 18 - 22, 2024

Sandbjerg Estate, Denmark

## PHYSIOLOGY OF EXERCISE AND HEALTH

### Sunday, August 18

**AFTERNOON** ARRIVAL at *Sandbjerg Gods*

18:00 DINNER

### Monday, August 19

08:00 – 08:45 BREAKFAST

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 Anne Yaël 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	<b>Couch conversation and discussion</b>
11:00 – 11:20	COFFEE BREAK
11:20 – 12:00	<b>Generic lecture</b> Chair: Ylva Hellsten
	<b>Publishing in a world of metrics</b> Joachim Nielsen
12:00 – 13:00	LUNCH
13:00 – 14:20	<b>Drug and exercise interactions (3 x 20 min+ 20 min discussion)</b> Chairs: Bente Klarlund Pedersen and Morten Hostrup
	<b>Effects of farmaka on training adaptations and metabolism</b> Flemming Dela
	<b>Glucocorticoids, exercise and connective tissue</b> Michael Kjær
	<b>Influence of Antipsychotic drugs on exercise-induced adaptations</b> David Wright
14:20 – 16:00	<b>Discussion Forum including Coffee break</b>
16:00 – 18:00	<b>Poster session 2</b> Chairs: Mathias Ried-Larsen and Terry Graham; Graham Fraser and Helga Ellingsgaard
18:00 – 19:00	DINNER
19:30 – 20:30	<b>Evening talk</b> Chair: Niels Ørtenblad
	<b>“All singing, all dancing”</b> 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**

Anne Yaël 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**

Terry Graham and Robert Boushel

## Thursday, August 22

08:00 – 09:00	BREAKFAST
09:00 – 09:40	<b>Generic lecture</b> Chair: Kristian Overgaard
	<b>Turning a PhD project into medicine</b> Thomas Holm Pedersen
09:40 – 10:00	COFFEE BREAK
10:00 – 12:00	<b>How do we interpret and understand complex data?</b> Chairs: Niels Ørtenblad and Flemming Dela
	<b>Using and interpreting the omics approach</b> Jørgen Wojtaszewski
	<b>Analytical strategies using large cohort studies</b> Mathias Ried-Larsen
	<b>Dense long-term monitoring of behavioural and biological data in free-living environments</b> Anders Grøntved
12:00 – 12:30	<b>Course evaluation and wrap up</b>
12:30 – 13:00	LUNCH AND DEPARTURE

## 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

**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

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**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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