

PROGRAM Hot Topics in Exercise Physiology 2024

Wednesday 25.9.

10:00 - 16:15 Registration is open

12:00 - 12:15 Symposium opening

Professor Juha Hulmi, University of Jyväskylä, Finland

Dean, Professor Sarianna Sipilä, University of Jyväskylä, Finland



Session I: Physiology - Energy Availability / REDs

Chairs: Johanna Ihalainen, Ritva Mikkonen, and Maarit Valtonen

12:15 – 12:30 **Enni-Maria Hietavala** (University of Jyväskylä, Finland) – Introduction to low energy availability

12:30 – 13:15 **Anthony Hackney** (University of North Carolina, USA) – Relative Energy Deficiency in Sport (REDs): A Perspective

13:15– 13:45 **Paulina Wasserfurth-Grzybowska** (Technical University of Munich, Germany) – Management of low energy availability in athletes

13:45 – 14:00 **Ville Isola** (University of Jyväskylä, Finland) - Integrative Analysis of Physiological and Metabolic Responses to Weight Loss in Physique Athletes: Implications for LEA and RED-S

14:00 – 14:30 Coffee

14:30 – 15:00 **Ida Heikura** (Mid Sweden University) – Effects of low energy availability on performance

15:00 – 15:30 **Thomas O’Leary** (Army Headquarters, UK) – Energy availability or multistressor environments: the REDs model in a military context

15:30 – 16:15 **Round Table discussion** – REDs in real world and prevention of REDs

Chairs: Johanna Ihalainen (University of Jyväskylä, Finland) & Maarit Valtonen (Research Center for Olympic Sports, Jyväskylä, Finland, Chief Physician of the Finnish Olympic Committee)

Speakers: Anthony Hackney (University of North Carolina, USA), Ida Heikura (Mid Sweden University), Monica Torstveit (University of Agder, Norway) & Laura Mierlahti (Sport Academy of Turku, Licensed nutritionist)

16:15 – 16:30 Short break

16:30 – 17:15 Short research presentations

Laila Usacka (University of Latvia)

Birna Varardottir (University of Iceland)

Maria Gräfnings (University of Basel, Switzerland)

Martin Cupka (Comenius University in Bratislava, Slovakia)

17:30 – 19:30 Get together & poster presentations

Thursday 26.9.

8:00 - 15:00 Registration is open

Session II: Female Exercise Physiology

Chairs: Sira Karvinen

8:15 – 8:40 **Sira Karvinen** (University of Jyväskylä, Finland) – Introduction to the topic

8:40 – 9:10 **Jari Karppinen** (University of Helsinki, Finland) – Fuel selection at rest and during exercise – are there differences between sexes?

9:10 – 9:30 **Atul Deshmukh** (Novo Nordisk Foundation Center for Basic Metabolic Research, Denmark) – Sex differences in skeletal muscle properties

9:30 – 10:15 Coffee and posters

10:15– 10:45 **Eero Haapala** (University of Jyväskylä, Finland) – Special considerations in female physiology and exercise – puberty

10:45– 11:15 **Katja Mjøsund** (National Olympic Training Centre Helsinki and Paavo Nurmi -Centre, Turku) – Physiology of pregnancy in athletes

11:15 – 11:30 Short research talk

Ida Löfberg & Vera Salmi (University of Jyväskylä, Finland)

11:30 – 12:00 **Roundtable discussion** – Does sex matter in exercise training?

Chairs: **Sira Karvinen** (University of Jyväskylä, Finland) & **Simon Walker** (University of Jyväskylä, Finland)

Speakers: **Jari Karppinen** (University of Helsinki, Finland), **Aapo Ranttilä** (University of Jyväskylä, PhD candidate, sport coaching), **Julie Greeves** (Army Headquarters, UK)

12:00 – 13:00 Lunch and networking

Session III: Female Physiology and Sex Differences in Sport

Chair: Ritva Mikkonen

13:00 – 13:20 **Ritva Mikkonen** (University of Jyväskylä, Finland) – Introduction to the topic

13:20 – 13:50 **Dionne Noordhof** (Norwegian University of Science and Technology, Norway) – Considering female sex steroids in sport science research

13:50 – 14:20 **Georgie Bruinvels** (University College London) – Considering female sex steroids in sport practice

14:20 – 15:00 **Round Table discussion** – Science vs practice in female sport physiology
Chairs: **Ritva Mikkonen** (University of Jyväskylä, Finland) & **Simon Walker** (University of Jyväskylä, Finland)

Speakers: **Dionne Noordhof** (Norwegian University of Science and Technology, Norway), **Georgie Bruinvels** (University College London), **Thomas O'Leary** (Army Headquarters, UK) & **Mira Kaikkonen** (University of Jyväskylä, Finland, PhD candidate, a physician in sports and exercise medicine)

15:00 – 15:45 Coffee

15:45 – 16:15 **Julie Greeves** (Army Headquarters, UK) – Physiology of extreme conditions/ multistressor environments and sex differences

16:15 – 17:00 **Tommy Lundberg** (Karolinska Institutet, Sweden) – Sex differences in sports and transgender women in the female category of sport.

17:00 – 17:30 Short research presentations
Ådne Ausland (University of Agder, Norway)
Daniel Jansson (Umeå University, Sweden)
Katri Ruutu (Folkhälsan Research Center)

19:00 Symposium dinner

Friday 27.9.

8:45 - 12:40 Registration is open

Session IV: Mechanisms of exercise in improving health: exercise and tissue interactions

Chairs: Riikka Kivelä and Maarit Lehti

- 9:00 – 9:05 **Riikka Kivelä** (University of Jyväskylä, Finland) – Introduction to the topic
- 9:05 – 9:35 **Atul Deshmukh** (Novo Nordisk Foundation Center for Basic Metabolic Research, Denmark) – Protein dynamics and organ crosstalk in exercise
- 9:35 – 9:55 **Tuuli Nissinen & Emilia Lähteenmäki** (University of Jyväskylä, Finland) – HDL in the service of energy-metabolism
- 9:55 – 10:20 **Lykke Sylow** (Department of Biomedical Sciences, University of Copenhagen, Denmark) – Exploring the dynamic interactions between exercise, muscle biochemistry, and cancer (online)
- 10:20-11:00 **George Brooks** (University of California, Berkeley) Muscle and Whole Body Lactate Kinetics: Organ-Organ, Cell-Cell, Intracellular, and Postprandial Lactate Shuttles
- 11:00 – 11:30 Short research presentations
Viktor Bielik (Comenius University in Bratislava, Slovakia)
Kialiina Tonttila (University of Jyväskylä, Finland)
Sakari Mäntyselkä & Erik Niemi (University of Jyväskylä, Finland)
- 11:30 – 12:30 Lunch and networking

Session V: Environmental Exercise Physiology

Chairs: Dominique Gagnon and Heikki Kyröläinen

- 12:30 – 12:50 **Dominique Gagnon** (University of Jyväskylä, Finland) – Introduction to the topic & Exercise Physiology in the Cold
- 12:50 – 13:20 **Stephen Cheung** (Brock University, Canada) – Exercise Physiology in the Heat
- 13:20 – 13:40 **Juha Peltonen** (University of Helsinki, Finland) – Exercise Physiology in Hypoxia
- 13:40 – 14:10 **Esa Hynynen** (Finnish Institute of High-Performance Sport KIHU, Finland) – Applications for elite athletes - heat / hypoxia with Olympic athletes
- 14:10 – 14:35 Short research presentations
Elias Lehtonen (PhD candidate, University of Helsinki, Finland)
Oona Kettunen & Titta Kuorelahti (University of Jyväskylä, Finland)

14:35 – 15:15 Coffee and posters

15:15 – 15:45 **Milan Sedliak** (Comenius University Bratislava, Slovakia) – Biological clock and circadian rhythm in exercise physiology

15:45 – 15:55 Short research presentations

Libuša Nechalová (Comenius University Bratislava, Slovakia)

15:55 – 16:00 Closing words

Associate Professor Riikka Kivelä, University of Jyväskylä, Finland

The local organizing committee reserves the right to make changes.