

Processes of energy metabolism: from mitochondria to body function

Time

September 8 – October 2

Alice - Alliance for Life Sciences and Engineering, a research cluster of the University Alliance Finland, is organizing a PhD course titled Processes of energy metabolism: from mitochondria to body function, 5 ECTS, on September 8 – October 2. The course is open for all interested PhD students.

There will be 2-3 days of lectures and/or demonstrations on each week. In addition, there will be a course work and a seminar on October 19. Course language is English.

Themes

The course presents a cross-section of the processes regulating body's energy balance and the measurement of related variables from mitochondria level to tissue metabolism and further to the function of whole organisms. The course is not directed at students of any special research area, but is suitable for people working on different aspects of energy metabolism who are interested in broadening their view of these processes of major relevance in vertebrate physiology. The topics include e.g.

- mtDNA, its structure and segregation
- Mitochondrial mutations and their effects on energy metabolism
- Energy metabolism and nervous system, fMRI
- Positron emission tomography (PET) in metabolic research
- Respiration and heart rate
- Effects of exercise on muscle in obesity, metabolic syndrome and diabetes
- Physical activity and fitness, heritability, and the occurrence of chronic diseases
- Effects of loading on bone mass and structure

Location

The course is lectured partly at Tampere and partly at Jyväskylä. The lectures will be video broadcasted to the other locality except for the lectures of the first day. Demonstrations are conducted partly at Tampere and partly at Jyväskylä. The seminar is held at Tampere. To complete the course at least 80% attendance at lectures and demonstrations, a course work and attendance at seminar are required.

Registration

Registration (name, email and university affiliation) before August 18 to Tuula Oksanen, tuula.a.oksanen@jyu.fi. Attendance will be limited to a maximum of 30 persons. Students of the University Alliance are given first priority.

Participation is free, but the students are expected to cover their own travelling costs. Check funding possibilities from your Graduate School.

For further details about the course, please contact tuula.a.oksanen@jyu.fi.

For more information about Alice, please visit <http://www.tut.fi/alice>