Welcome to this years summer course in August 8-12th in Stockholm! We have put together a program that includes the most inspiring, competent and well-known teachers within the field of chronobiology and working life. The lectures will span from molecular clockworks to study designs. The course is held at the campus of Stockholm University, School of Public Health and Stress Research Institute. The course will be based on seminars with rich opportunities to meet professors and PhD students close to or within the field of chronobiology, but also in an informal way enjoying the summers season. For social events we are dependent on the weather but there are plans for barbecues, swimming in the lake (50 metres from the Stress Research Institute), pubcrawl in Stockholm, Viking Chess (trad Swedish lawn game) or running around the lake.

Course leader will be Arne Lowden (arne.lowden@su.se) and Claudia Moreno (crmoreno@usp.br) and it is supported by the School of Public Health and the Stockholm Stress Center Graduate School.

Teachers

**John Axelsson** – Karolinska Institutet, Sweden

**Arne Lowden** – Stockholm University, Sweden

**Claudia Moreno** – University of São Paulo, Brazil/Stockholm University, Sweden.

**Malcolm von Schantz** - University of Surrey, UK

**Debra J. Skene** – University of Surrey, UK

**Kenneth Wright** - University of Colorado, US

**Torbjörn Åkerstedt** – Karolinska Institutet, Sweden
Course plan

Course aimed for PhD students
International School of Human Chronobiology and Working Life

Institution
School of Public Health, Stress Research Institute, Stockholm University

Area
Public Health

Registration deadline
July 5th, send E-mail to course leader Arne Lowden (arne.lowden@su.se), include full name, and address, motivation and if possible date for acceptance to PhD program.

Selection criteria
Priority for applying to the course is given students having a (1) Masters exam or acceptance to PhD program, (2) relevance for the dissertation, (3) motivation stated in applicant letter, (3) date for registration to PhD program, (4) inclusion in the Stockholm Stress Center research school.

Course structure
Code: 331161
Name: International School of Human Chronobiology and Working Life
Course credits: 1.5

Course fee
The International School of Human Chronobiology and Working Life is free of charge for enrolled PhD students at public universities. In case of non-enrolled students the fee is SEK1500 (app. $225 / €170).

Course content
The course presents chronobiological concepts for humans at molecular and at organizational level. In a second step circadian effects and implications for health are presented. Finally countermeasures and treatment for adjusting circadian rhythms within working life will be discussed. The themes for lectures will be:

- What is Chronobiology?
- History of Chronobiology Research
- Basic principles of circadian physiology
- Photic and non-photic time cues
- Interactions Between Sleep and Circadian Physiology
- Molecular clockworks
- Circadian stress and shiftwork
- Methods and designs on chronobiology: General discussion
- Epidemiologic approaches in Chronobiology
- Study designs

Expected goals:
After the course the student is expected to be able to:
- present main themes within chronobiology having implications on work and health.
- present research methods in chronobiology suited for description of circadian rhythms.
- present major mechanisms in chronobiology involved in the development of disease.
- be able to critically evaluate and form designs in work-related chronobiological research.
Teaching
Teaching consists of lectures and seminars see program below.

Examination
Each student performs examination at a seminar including written and oral presentation. The examination has two parts: 1) Power point presentation with a summary of the research area. 2) Written (2-3 pages) and oral presentation of a study that include presentation of a study, choice of methods that seem relevant considering current knowledge in chronobiology and working life. The grade is pass/no pass.

Limit
Number of students: max 25

Literature
The course literature is presented in the bibliography below.

Other
Course coordinator and examiner: Associate Professor Arne Lowden, Stress Research Institute, Stockholm University and Claudia Moreno, School of Public Health, University of São Paulo, São Paulo.
Course date: Week 32, 8-12 August 2016.
Location: Stress Research Institute, Room 207, Frescati hagväg 16 A, 106 91 Stockholm, Sweden
Schedule

Monday – August 8th
10:00-12:30 • Welcome (all)
  • Introduction of school week
  • Students present their research groups – Data-blitz
12:30-13:30 - Lunch
13:30-15:00 • History and concepts of Chronobiology (Claudia Moreno)
15:00-15:30 - Break for coffee
15:30-17:00 • Basics principles of circadian physiology (Debra Skene)

Tuesday – August 9th
09:00-10:30 • Molecular clockworks (Malcolm von Shantz)
10:30-11:00 - Break
11:00-12:30 • Monitoring circadian rhythms in field and laboratory studies? (Debra Skene/Ken Wright)
12:30-13:30 - Lunch
13:30-15:00 • Epidemiological approaches in chronobiology (Torbjörn Åkerstedt)
15:00-15:30 - Break
15:30-16:30 • How to study circadian strain in shiftwork? (Arne Lowden)

Wednesday – August 10th
09:00-10:30 • Sleep and diurnal rhythms (John Axelsson)
10:30-11:00 - Break
11:00-12:30 • Journal Club (Arne Lowden/Claudia Moreno)
12:30-13:30 - Lunch
13:30-15:00 • Group work
15:00-15:30 - Break
15:30-16:30 • Group work

Thursday – August 11th
09:00-10:30 • Chronobiology and metabolism (Ken Wright)
10:30-10:45 - Break
10:45-12:15 • Group work
12:15-14:30 - Lunch
15:00-16:30 • Group work

Friday – August 12th
09:00-10:30 • Presentation of study designs (students)
10:30-11:00 - Break
11:00-12:00 • Presentation of study designs (students)
12:00-12:30 • Course evaluation (all)
Postal Address
Stockholm Stress center,
c/o Stressforskningsinstitutet,
Stockholm University,
SE-106 91 Stockholm
Sweden

Visiting Address
Frescati hagväg 16 A,
114 19 Stockholm
Sweden

Website
www.stockholmstresscenter.se

Telephone & Telefax
Switchboard: +468-16 20 00
Fax: +468-5537 8900

E-mail
center@stress.su.se