Block course "Sex hormones and Oxytocin/Vasopressin signaling in the brain: implications for social behavior and autism spectrum disorder"

Ron Stoop (CNP-CHUV) and invited speakers

1 ECTS

Time and Location:

- February 15 & 16, 2016
- Lausanne University Campus UNIL-Sorge, Amphipole building
  - February 15: 13h40 – 15h40 --- LS2 Symposium chaired by Ron Stoop in Auditorium B
  - February 16: 9h-16h --- Post-symposium workshop in room 414 (please bring a laptop)

Objectives of symposium and workshop:
Many psychiatric disorders, in particular those related to changes in social behavior, show a gender bias, that can sometimes already appear early in life, for example in autism spectrum disorder (ASD). Vasopressin (VP) and oxytocin (OT) signaling play an important role in social behavior and can also display important differences between genders most likely as a result of hormonal influence on the expression of their peptides, their delivery system and/or their receptors. Both signaling pathways are currently prime targets for the treatment of ASD and differences in their signaling have also been suggested to underlie the disease. The objective of the symposium and the post-symposium workshop is to discuss in how far sex differences in VP and OT signaling can underlie gender bias in social disorders such as ASD and to what extent such differences should be considered when using OT and VP signaling as a treatment for ASD. To this purpose, a number of experts from varying backgrounds will present their work in the LS2 symposium on February 15. The morning of February 16 will be dedicated to a short discussion session between course participants and available speakers on opinions and future research perspectives in the field. Based on the symposium talks and discussions, as well as by the help of additional literature, course participants will be asked to submit a mini-research-proposal (see “Workshop” section below for more details) that should be submitted to the doctoral school for credit validation.

Symposium speakers and discussants (please see the LS2 website for program layout and talk titles):

- Dr. Lance Martin is the manager of the Martin-Protean Research Partnership. His expertise lies in the development of an improved LCMSMS method for the quantification of neurohypophysial hormones from biological samples.
- Dr. Jack van Honk has a double professorship at the University of Utrecht in the Netherlands and the University of Cape Town University in South Africa. He is known world-wide for his work on sex hormones in human behavior. His talk will give an overview of the development of sex hormones in human psychiatric disorders and the treatments that can be used.
- Dr. Markus Heinrichs is professor and dean of social sciences at the University of Freiburg University in Germany. He is well known for his research on vasopressin and oxytocin in human behavior. In his talk he will address the effects and therapeutic treatments by VP and OT in different types of social disorders.
- Dr. Chloe Hegoburu from the group of Dr. Ron Stoop has been studying the social buffering effects mediated by OT in rodents on fear behavior, as well as the social binding effects of OT and VP in /VP and sex hormones in animal models of fear expression and social buffering.
- Dr. Christophe Grundschober from Roche is heading the OT/VP potential for treatment of social disorders from a pharmaceutical perspective. His research on oxytocin vasopressin will contribute to the pharmaceutical potential of OT/VP treatment in social disorders.
Workshop to develop research proposal along symposium theme on February 16

On February 16, the PhD candidates can participate in a workshop in which they will, in small teams of 4-5 participants, develop a research proposal on one of the themes of the symposium. To this purpose they will meet at 9 am with the organizers from whom they will receive instructions regarding the development of their project. In the morning, this will consist of a literature search and study about a predetermined topic of the symposium leading, at the end of the morning, into a research hypothesis. Over lunch, the participants will be able to meet with the guest speakers of the symposium and discuss their views and ideas regarding the topic of their research proposal. In the afternoon, the participants will receive further instructions on the development of the proposal that should in the end be formatted in the form of a powerpoint presentation of 10-15 minutes. This should be presented at 4 pm and will be followed by questions from the organizers. Through this short proposal the participants should show that they are able to integrate the symposium talks and build upon these a new research project addressing questions such as:

- The implications of sex differences for personalized medicine and pharmaceutical developments
- Potential difficulties in translating sex differences/social behavior from animal to human neuroscience
- Need for interdisciplinarity: Why and How?
- Need and feasibility to promote the research field in general
- Sex differences in other research domains: fact or myth?

Credits:
You will obtain 1 ECTS when participating in the 2h symposium session on February 15, in the workshop on February 16 and the group work on the same day. Please contact the LNDS coordinator in case of severe timing problems on February 16.

Background literature on the symposium and workshop


