Teaching for international courses
Visiting Professors
Academic year 2018/2019

1st term

COURSE TITLE
Neurophysiology

Scientific area
Physiology

Department of Life Sciences and Systems Biology

Language used to teach
English

Teaching Commitment: 16 hours

Course summary
The course will be focused on sensory physiology as part of the Neurophysiology course. In particular, the teaching will focus on the role of ion channels in the sensory processes of cold sensation, nociception as well as hypersensitivity to cold and cold allodynia. More precisely an introduction will be given on main physio- and pathological components of thermosensation and nociception by presenting the different central and peripheral area involved in the production, transmission and regulation of the nervous signals (central brain areas, ascendant and descendant pathways, role of inflammation, neuropathic pain). Particular attention will be given to the molecular basis of nociception by focusing on the role of TRP, TREK, K2P and ASIC channels in nociception.

Moreover, part of the teaching will be dedicated to group student work supervised by visiting Professor. Students will be divided into working groups focusing on different aspects of ion channel regulation during thermo- and nociception, the outcome of which will be presented in the form of seminars. The practical work including the presentation will be evaluated as part of the final grade of the Neurophysiology course.

Learning objectives
The course aims at focusing the relevant issues of reproduction Neurophysiology and aims to foster basic knowledge of students on cellular neurophysiology and electrical signals transmission as well as integrated knowledge of neurophysiology. Additional objective points to a quantitative analysis of some conceptual and technical approaches to neurophysiological mechanisms from a molecular and postgenomic pint of view, with particular emphasis on selected themes.

Other activities besides the course: i.e. seminars and conferences addressed to PhD students and research fellows, dissemination conferences
During the Visiting Professorship, the visiting professor will also perform a series of lesson in form of seminars as part of the teaching training organized by the PhD School of “Complex Systems for Life Science”, in accordance with Prof. Fiorio Pla. In this context, he/she will present an updated state of
the art as well as a series of seminars focused on the role of TRP channels in cancer progression and tumor vascularization.

**Visiting Professor Profile**
The Visiting Professor should have a solid teaching experience in Physiology, preferentially with an academic position, as well as a solid experience in English teaching. Due to the focused topic proposed for the Neurophysiology course the Visiting Professor should have both experience in the teaching of pain and cold Neurophysiology as well as on ion channels involved. On the other hand, it would be necessary that the Visiting Professor has an international-recognised research experience related to ion channels regulation involvement in Pathophysiology. The Visiting Professorship will be a great opportunity for the students to be able to meet and to have the possibility of training abroad.

**Contact person at the Department**
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