STudent REseArch Mobility Programme (STREAM)
Research Project proposal

Host University: University of Zurich

Main Research Field (drop-down list):
Life science, Medicine, Agriculture and Veterinary

Specified field, subject:
Obesity

Research project title:
Treatment of obesity and its comorbidities

Possible starting month(s): Any month

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Possible duration in months: at least 3 months (the longer the better)

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Exact starting and end dates will be discussed between the supervisor and the student

Suitable for students in: ☒ Bachelor level ☒ Master level

Prerequisites:
None

Restrictions:
None

Description (maximum 2,000 characters):

Our public health systems face a major challenge due to the worldwide obesity epidemic. The number of obese individuals is increasing dramatically, and the overall rise in obesity is to a large degree responsible for the increased incidence of diseases like type 2 diabetes mellitus, cardiovascular disease and else. Even though genetic factors may be responsible for some cases of obesity, the vast majority is likely due to changes in lifestyle, which includes increased caloric intake. Despite these general and population-wide developments, the energy balance is controlled tightly in each individual person; in other words, even though eating (in terms of quantity and quality of food) varies markedly on a day-to-day basis, body weight is kept relatively constant by a match of energy intake and energy expenditure. Hence the system generally seems to detect and correct imbalances between these two factors. At the level of physiological controls of eating, the controls of meal size are the best studied and constitute very promising targets to reduce overall eating and to treat obesity. The current treatment options against obesity appear rather limited. The most effective treatment option is bariatric surgery, such as Roux-en-Y gastric bypass (RYGB) surgery. Interestingly, the treatment success of this intervention appears to be associated with a change in the hormonal profile of patients, in particular in the release of gut hormones, including amylin, which are secreted in larger amounts after RYGB. Further, amylin-based pharmacotherapy yielded very promising body weight lowering effects in preclinical and clinical studies. Research performed in our laboratory contributed to a large extent to the current knowledge on the physiology of amylin and the mechanisms underlying amylin's
anorectic effect. We also established a strong research program with the only available rodent model of RYGB in Switzerland.
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Research Project proposal

Research laboratory:
xxx

Faculty and/or Department:
Veterinary Physiology

Deadline for nomination to reach host university:
Ongoing

Notification of admission given by the end of:
xxx

Additional information:
NA

Contact person, including position:
Andrea Orbann, Head of Student Mobility

Contact email:
andrea.orbannoechsli@uzh.ch