Visiting Professor Program  
Academic year 2022/2023  

TEACHING COMMITMENT: 12 hours  

COURSE TITLE  
Stem Cells senescence: biological models and underlying molecular determinants  

TEACHING PERIOD  
2nd term  

SCIENTIFIC AREA  
Molecular and Cellular Biology  

LANGUAGE USED TO TEACH  
English  

COURSE SUMMARY  
Program  
• The nine hallmarks of aging;  
• Organismal models in aging research: form yeast to primates;  
• Epidemiological studies: what we learn from centenarians;  
• The effect of age on tissue homeostasis and on the ability to cope with tissue damage;  
• Concept of ‘aging as disease’ and the use of anti-aging interventions in organismal models and humans.  

Course objectives  
• Learn about molecular and cellular mechanisms associated with organismal aging, loss of tissue regeneration and chronic disease;  
• Explore various models used in aging research and understand advantages and disadvantages of each system;  
• Learn pharmacological and lifestyle interventions that can interfere with the aging process and promote tissue regeneration and rejuvenation;
• Understand how anti-aging approaches are implemented by the general population and in the clinic.

LEARNING OBJECTIVES
Results of learning outcomes:
• Acquire the ability to connect and integrate different molecular and cellular processes to understand age-associated networks;
• Acquire good knowledge on how different organismal models can serve the purpose to identify age-associated mechanisms and to predict the most effective interventions;
• Gain insights on how age influences tissue regeneration and how this connects to disease and dysfunctions;
• Become acquainted with the use of pharmacological and lifestyle interventions to promote maintenance of tissue functions and the importance of cellular and molecular biomarkers for clinical evaluations.

TUTORSHIP ACTIVITIES
Before each class, students are asked to read relevant literature which will be provided by the teacher. During class, the students will be asked to interact and propose ideas and concepts. Interactions will be taken into consideration for the final grade.

The teacher is always available for the students for 30 min. after each lesson. The teacher is also available for discussing issues related to the course subject, especially via email. The teacher will provide the material necessary to follow the course (mainly original articles and reviews) and guide to search for additional relevant literaturecritically reading of scientific papers

LAB ACTIVITIES
not applicable

OTHER ACTIVITIES BESIDES THE COURSE
Brief series of seminars for PhD students, about molecular mechanisms of cell senescence and models to detect it and exploit it therapeutically.

ADDITIONAL COURSE

COURSE TITLE
Scientific Dissemination on social media

TEACHING PERIOD
2nd term

SCIENTIFIC AREA
Molecular and Cellular Biology

LANGUAGE USED TO TEACH
English
COURSE SUMMARY
The course will focus on the most recent forms of scientific communication, both to peers and to lay people, namely Facebook, Twitter, Instagram, teaching how to use these now fundamental tools in a clear and attractive way.

LEARNING OBJECTIVES
The students will learn how to best use these different tools, each with its specific language and public. Practicals will be included.

TUTORSHIP ACTIVITIES
Support during the preparation of the practical essays.

LAB ACTIVITIES
not applicable

OTHER ACTIVITIES BESIDES THE COURSE
N/A

VISITING PROFESSOR PROFILE
The Visiting Professor should have an excellent record of publications and proven experience in the study of cellular senescence and ageing, focusing on the molecular mechanisms leading to loss of regeneration potential and chronic disease. His/her expertise should also focus on the development of experimental models to study this phenomenon and the mechanisms that control it during development, in stem cell biology and in pathological conditions. Moreover, the Visiting Professor should be proficient in the use of social media for Scientific Communication.

CONTACT PERSON AT THE DEPARTMENT
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