

Màj 09/06/2022

UE 2.1. Current concepts in Precision Health

15 ECTS

Parcours « *Precision Health* »

The aim of this teaching is to provide the fundamental concepts of precision health, an innovative multidisciplinary and integrated approach of health from the pathophysiological mechanisms to personalized patient care, integrating the innovative start-of-the-art biological and technical developments. Application examples will be given from the key thematic disciplinary fields of research (cancer, diabetes and cardiometabolic diseases, neurologic diseases, infection/immuno/inflammation), justifying a precise approach over the long term, from screening to prevention of complications.

Block of Skills and Knowledge-BCC 2: Knowing recent concepts in Biology and Health in a specific domain.

Skills acquired (direct / indirect):

- Conceive an experiment in Biology and Health in a domain of specialty by the definition of a problem and the formulation of objectives (BC2): by carrying out a synthesis of the international scientific literature in connection with the research project; by arguing the relevance of the choice of models and methods (biological model, analysis techniques, statistical tests).
- Communicate scientific data (BC5): by summarizing data from the scientific literature; by presenting and discussing concepts or results in various ways (oral presentation, written report); by communicating in a clear and structured manner while adapting the level of expression and specialization to the target audience.

Compulsory training unit

View of the program

Training is organized in the form of 10 teaching units of 6 hours each. Each unit takes the form of a seminar on a specific topic, including conferences and mini-symposium with an active involvement of the students. Attending all of the proposed seminars is compulsory.

- ST1: From OMICS to systems biology
- ST2: Imagery and precision health
- ST3: Pathophysiology and molecular basis of diseases and treatments applied to precision health
- ST4: Artificial intelligence and precision health
- ST5: Mathematic modeling of living organisms
- ST6: Novel Mode of actions for personalized drugs
- ST7: Medical devices and precision health
- ST8: From cohorts to cutting-edge researches
- ST9: Public policy and health economics
- ST10: Ethics, health and society

Tests: Continuous assessment

Knowledge is assessed by writing a short literature review of one of the topics dealt with during the thematic seminars. This review is presented orally in front of a panel of professionals and the student is invited to answer questions related to the topic.