PRECISION MEDICINE

Course Title:
Precision Medicine

Format:
Massive Open Online Course (MOOC) on the COURSERA platform

Learning Objectives:
By the end of this course, our aim is to enable you to

- Distinguish the main steps of genome analysis and genetic counselling for monogenic disorder in the era of precision medicine.
- Understand and predict the utility of integrating the genetic profiling with OMICS data, clinical information and health records for the risk assessment and management of complex disorders.
- Understand why and how molecular and OMICS analyses can be applied to cancer diagnostics, prognosis, and management.
- Recognize the main challenges of translating genomics into clinical care, including primary care.
- Recognize how pharmacogenetics might improve disease management, and how disease genetics understanding can enhance drug development.
- Understand the challenges of population-scale precision medicine research and of the implementation of such research findings in medical practice.

Course content:

Module 1: Monogenic Disease
Module 2: Complex Disease
Module 3: Cancer
Module 4: Health and Prevention
Module 5: Pharmacogenomics and Drug Development
Module 6: Research

Course language:
English (with English subtitles)

Pre-requisites:

It is recommended that you have prior basic knowledge in biology, medicine or pharmacy at a bachelor level.

Instructors:

Prof. Antoine Geissbuhler, Dr Christelle Borel, Dr Petros Tsantoulis, Prof. Idris Guessous, Prof. Caroline Samer (University of Geneva). They will be joined by numerous other researchers and practitioners from the field.

All material is available on the course page. You will be able to download the slides presented in each video by clicking on the links.

Evaluation:
To obtain a Certificate of Achievement from the University of Geneva and Coursera, you must pass each of the six assignments. To pass you must answer at least 80% of the questions correctly. For each assignment you will be given three attempts every eight hours. Please note that the course certificate does not give you ECTS credits.

Course planning:

The course is session-based. Once enrolled in the course, you will be registered in a session that has a start and an end date, and learners in the same session work through the course together according to weekly schedules and suggested deadlines. You can submit assignments as late as one week (seven days) after the official session end date. After this date, access to the session will close, and learners who have not completed the course will need to switch to the next session if they wish to earn a Certificate. In this case, any work they have completed will be transferred.

We encourage you to read the suggested readings and actively participate in the proposed activities, discussion prompts, and forums with the other course participants. Please always be polite and respectful when interacting on topics related to the course.

We look forward to you joining us!

Antoine Geissbuhler