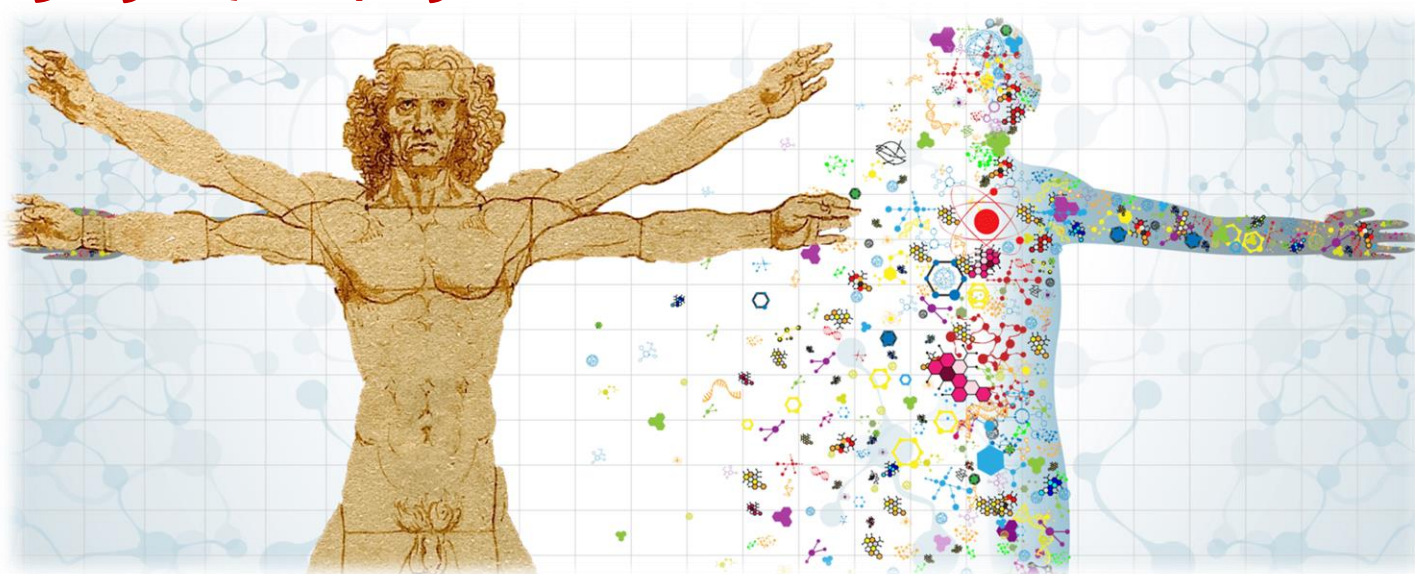


The New Frontier of Precision Medicine

03.09. – 7 or 14.09.2018



The New Frontier of Precision Medicine International Summer School aims to update medical students and medical doctors on new diagnostic and therapeutic approaches that are leading towards a precision medicine. The development of new gene-editing technologies has led to an unpredictable growth of therapeutic possibilities based on causative genetic lesions. These technologies are drastically changing the fate of rare pathological conditions as well as the management of oncological, degenerative and infectious diseases. The evolution of new precision medicine approaches has been so fast that it is difficult to pass on new knowledge in a comprehensive and systematic way during the traditional course of study. In order to fill this gap the summer school is organized with lectures by some national and international professors and researchers who are actively contributing to the development of research.

During the course some of the pathological conditions that could take advantage of these new methods will be illustrated. This approach will provide the new generation of physicians the key to precision medicine, demonstrating the necessity of framing the patient, combining the clinical approach with the identification of causative genomic alterations.

Participants will have the opportunity to live in close contact with professors, hoping they can draw inspiration from the Summer School for the development of their future interests.

The workshop activities will allow to solidify the theoretical skills acquired during the first week.

Widening our horizons beyond traditional medicine is the first step on the path of modern scientific research.

Course and Programme

The New Frontier of Precision Medicine International Summer School will discuss actuality and perspectives in the field of Precision Medicine, focusing mainly on the genetic aspects involved in pathogenesis, diagnostics and therapies.

The course will be held in **English** language.

The Summer School will last two weeks and will include 72 hours of curricular activities delivering an official **certificate of participation**.

During the first week several speakers, coming from important Italian and European Institutes, will hold several lectures that will touch the main fields of application of Precision Medicine (oncology, haematology, neurology, immunology, metabolic diseases, bioethics) and provide participants a new interpretation for clinical activity, in contrast with traditional medicine.

Three exercises will be carried out in this first week on the use of databases, bioinformatics, clinical and bioethical cases.

In the second week (optionally replaced by the “Autonomous project version” variant) participants, divided in small groups according to the sector that most passionate them, studying the literature, will deepen an argument thanks to different Workshops and will produce works to be discussed during the days. The topics will be either proposed by the teachers or chosen by the participants, the discussions will always be followed by a debate that will involve all participants and will be stimulated and guided by an Expert in the field. Through a series of theoretical and practical exercises, they will also have the opportunity to deepen the methodological approach to genetic analysis and functional research tests of the pathogenicity of the identified genetic variants. In this second week, they will develop a new approach to pathologies.

AUTONOMOUS PROJECT VERSION: for participants who can not take part in the two consecutive weeks, the second week can be replaced by the elaboration of a project with the help of a supervisor / tutor. The participant must indicate the topic that he/she wishes to deepen (based on the availability of the Speakers) once the registration is confirmed. He/she will be sent the necessary material to deepen the topic of interest and will be able to propose a research project, which will then be discussed with the Tutor during the week of the course. The participant's task will be to complete a paper composed of a thematic bibliographic research on the chosen topic, culminating with the exposition of the project discussed.

The **two 200 € SCHOLARSHIPS** will go to reward the two most interesting works, promoting a period at an institution able to allow the continuation of the project presented.

PHD STUDENTS and RESEARCHERS: For participants already in the research world and who do not give the availability for the two consecutive weeks, the week will be completed with a Journal Club on Saturday 8 September (which will replace the second week). Participants will discuss some published articles analyzing their strengths and weaknesses. The articles will be selected by the Scientific

Committee in order to follow the major Magazines on a wide spectrum, with particular attention to the most relevant works in translational research. This activity is optional for participants who will attend both weeks or who will choose the variant "Autonomous project version".

Application

The Summer School is designed to be interactive and effective, so the maximum number of participants admitted will be forty (40).

Curricular and extracurricular activities will only be in **English**.

The application will be made by Email after filling the **Application form**, this must be sent to the Email address **didattica.collegiofraccaro@gmail.com** along with documentation certifying the enrolment in the Faculty of Medicine and Surgery, Biology or Biotechnology or the Degree certificate, the documentation certifying the grades of each exam taken during university studies, a short Curriculum Vitae and a motivation letter.

The end date of application will be on **July 5th 2018 (extended to July 15th 2018)**, the results of the selection will be communicated by Email within seven days from that date, which must be followed by acceptance by Email within the following seven days. Payment must be made within.

To summarize: send to the Email address **didattica.collegiofraccaro@gmail.com** within July 5th 2018 (extended to July 15th 2018):

- Application form (pdf on <http://www.collegiofraccaro.it/new-frontier-precision-medicine-international-summer-school-university-pavia>)
- Documentation certifying the enrolment in the Faculty of Medicine and Surgery or the Degree certificate
- Documentation certifying the grades of each exam taken during university studies
- Motivational letter



Requirements to participate

Students and graduates in Medicine and Surgery, Biology and Biotechnology of the European Universities are admitted to the International Summer School selection.

ECTS credits and participation certificate

The course has been accredited by the Department of Molecular Medicine of the University of Pavia and issues **9 ECTS** (European Credit Transfer System) after a final exam evaluated in thirtieths and officially certified.

ECTS credits are valid throughout Europe and the course could be valid as an extra-curricular examination for the Faculty of Medicine and Surgery.

Application fee and scholarships

Our goal is to make this International Summer School economically accessible to university students, the enrollment has a total cost of € **100** which includes teaching materials, work breakfasts, work lunches and coffee breaks for each day of the course. Extracurricular activities of guided tours are also included.

The Summer School provides **2 scholarships** each worth € **200** for the two participants who will be more motivated and deserving during the evaluation tests. The scholarships will be awarded at the end of the International Summer School.



Scientific committee

Prof. Luca Arcaini - Professor of Haematology at the University of Pavia
Coordinator of the International Summer School

Prof. Orsetta Zuffardi - Professor of Human Genetics at the University of Pavia

Accommodation

We offer the availability of **free accommodation** in the center of Pavia, providing accommodation in a single room for a total of **15 participants**.

Participants will be housed at **Collegio Plinio Fraccaro** (home of the International Summer School). Participants can arrive from the afternoon of 2 September.



Location

The course will be held in Collegio Plinio Fraccaro of Pavia, the lessons will take place in Aula Porro, the Collegio's Great Hall dedicated to Professor Edoardo Porro. Study and library rooms will be available, as well as the other common areas.

The Collegio Plinio Fraccaro is located in the center of Pavia in the shadow of three of the tallest medieval towers in the city. The position will allow participants to fully experience the environment of Pavia.



Extracurricular activities

We think that social aspect is fundamental during an International Summer school experience, so participants will have many opportunities to create a solid group during the two weeks.

Meals (breakfasts, lunches) will be consumed at Collegio Plinio Fraccaro, participants will have the opportunity to socialize and discuss directly and informally with the invited speakers.

In addition we believe it is important to live the city of Pavia, its landmarks for scientific medical research, the University and the places that have marked history. Learning on historical guides, participants will have the opportunity to discover the most fascinating places in a few days, walking through the forgotten streets on the trail of some historical protagonists and visiting the scientific structures led by experts and professors.



What to learn

The participant will have the opportunity to live in close contact with teachers who will intervene and who represent some of the excellences in the field of Italian and international research. This represents a real-time update of the scientific landscape in this field.

In addition it will have the opportunity to develop a correct approach to precision medicine, with the possibility of continuing to deepen the subject interacting with teachers and agreeing on possible subsequent professional periods in the different scientific realities represented.

The objective that each participant must achieve is the development of a modern medical mentality, based on the study of genetic-molecular causes, genetic-molecular based diagnosis, and the development of genetic-molecular therapies.

Widening our horizons beyond traditional medicine is the first step to take the path of scientific research.

We hope that participants can draw inspiration from the International Summer School for their degree thesis or to undertake new research projects in their Institutes.

Getting prepared

In order to take full advantage of the opportunity, it is recommended to reach in advance a series of basic knowledge that can then be integrated during the International Summer School.

Contacts

Email for registration and information: didattica.collegiofraccaro@gmail.com

Address of Collegio Plinio Fraccaro: Piazza Leonardo Da Vinci, 2 Pavia

