

INSTITUT PASTEUR COURSE - EDUCATION CENTER

Advanced immunology

Institut Pasteur, Paris, November 16, 2020-January 8, 2021

The goal of this five-weeks intensive course is to present an in-depth analysis of main themes in cellular and molecular immunology through (1) a selection of theoretical lectures; (2) bibliography seminars; (3) a unique practical course that introduces a variety of state of the art experimental approaches for immunophenotyping of human immune response in biomarker discovery and translational medicine.

Practical course (3 weeks)

Taking advantage of the *Institut Pasteur Center for Translational Science* and the *"Milieu Intérieur" Laboratory of Excellence project*, the practical course will focus on the characterization of age-dependent differences in the immune response of healthy individuals, in the presence or absence of chronic cytomegalovirus infection. The response of each individual to an array of immune stimuli, targeting innate or adaptive immunity, will be investigated by immunophenotyping of human blood samples, using multi-colour flow cytometry, imaging flow cytometry, single-cell sorting and real-time PCR, simple and multiplex ELISA, measurements of cell metabolism and NGS RNA-sequencing.

Lectures (2 weeks)

Lectures will cover advanced studies on major immunological topics, such as: development of lymphoid tissue, lymphocyte differentiation, molecular basis of antigen recognition by B and T lymphocytes, lymphocyte homeostasis, tolerance, cellular communication, immune responses, innate immunity, vaccinology and various aspects of immunopathology. Lectures will be given by internationally renowned speakers.

Bibliography seminars (3 days)

Groups of students, supervised by senior scientists, will participate to bibliography analysis groups on six main immunology subjects. The aim of these seminars is to train students to analyze scientific data and to present them in front of a broad audience.

Online registration: www.pasteur.fr/en/advanced-immunology

Co-directors:

Andres Alcover
Ana Cumano

Head of practical work: Milena Hasan

Practical information:

Deadline for application: June 20, 2020

Attendees: 24 students

Contact: enseignement@pasteur.fr

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