

Màj 01/06/2020

UE 2.1. Current concepts in Precision Health

15 ECTS

Parcours « *Precision Health* »

ST2: Imagery and precision health

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This seminar will show how recent developments in imaging techniques have improved our capacities to analyse with an extreme precision biological phenomenon responsible for pathological situations. You will see how start-of-the-art technologies are used in academic labs to identify new druggable targets or develop novel diagnosis approaches based on biomechanical properties from tissue samples. New clinical applications using live imaging technologies that allow a better comprehension of the complexity behind neurological disorders will also be presented.

Duration: 1 day

Program

Provisional schedule

« Health precision in psychiatry »

- 1) Debunking psychiatric heterogeneity with computational phenotyping
- 2) Drug-assisted psychotherapy in post-traumatic stress disorders
- 3) fMRI-guided therapy for refractory hallucinations
- 4) New biomarkers to predict treatment response: an application in Addiction medicine

« New precision microscopy techniques for diagnostic or druggable targets »

- 1) Mechanical properties based identification of tumoral tissues using Atomic Force Microscopy – Vincent DURPES (team LAFONT, CILL)
- 2) Functional High content Screening Microscopy for druggable targets of Biosafety level 2 and 3 pathogens – Eik HOFFMANN (team BRODIN, CILL)

« Deep learning and image analysis applied to Diagnosis »

- 1) **New technologies in Microscopy and image analysis for diagnosis – Zeiss**
or Non-invasive diagnostic of NASH at the different states – Genfit
- 2) AI- assisted diagnosis in histopathological characterization of tumoral tissues – Camille Franchet (University of Toulouse, Anatomy & Cyto-Pathology Lab)

Associated programs of excellence: EquipEx ImagInEx BioMed, Marie Skłodowska-Curie Innovative Training Networks