Centre de recherche en neurosciences

UNIL | Université de Lausanne

LEMANIC NEURO SCIENCE DOCTORAL SCHOOL

Neurological disorders: From pathophysiology to neuroscience – Spring Module S

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CHUV and UNIL Lausanne, Switzerland

2 ECTS

Summary and objectives

Neurological disorders affect the central nervous system or the peripheral nervous systems and can impair the brain, spinal cord, peripheral nerve or muscular functioning. They pose a large burden on health, representing the leading cause of illness and disability worldwide. Our knowledge of the pathological mechanisms underlying these disorders is ever increasing. However, advances in diagnostics, interventions and disease modifying therapeutics are lagging, which call for further engagement by the neuroscientific research community.

This course is designed to offer students from diverse backgrounds a comprehensive introduction on the brain and central nervous system function in neurological disorders and the research tools available and used to study their pathophysiology. The course is organized by the CHUV-UNIL Department of Clinical Neurosciences and will be offered by medical doctors and researchers of the Department.

The Spring semester course (2 ECTS) covers 5 specific neurological disorders, namely Alzheimer's disease and dementia, Parkinson's disease and movement disorders, multiple sclerosis and neuroimmunology, traumatic brain injuries, and brain tumors.

For each disorder, an overview of (i) the pathophysiology, (ii) the clinical management and unmet priority needs, and (iii) the state of research and future neuroscience prospects is provided.

Course level and target

This introductory course is primarily targeted to LNDS Ph.D. students (diverse backgrounds) and MD Ph.D. students. The course is open to EPFL, UNIL and UNIGE master students and to CHUV medical assistants interested in clinical neuroscience research.

Course materials

The course material will be stored on the UNIL e-learning platform Moodle. The access key for the Moodle will be provided to participants before course start.

- go to "https://moodle2.unil.ch"
- log in with your institutional address (unil, chuv, epfl)
- click on "Faculté de Biologie et de Médecine" > "Ecole doctorale / doctoral school" > "Lemanic Neuroscience Doctoral School"
- course materials and papers will be stored under "Neurological Disorders" (Module A or S)

Evaluation

- Assessment components:
  - active participation evaluated through in-class 15-min discussions on an article proposed by the teachers for each of the neurological disorder
  - submission of a 2-page research project proposal on one of the covered neurological disorders (free choice of the student)
- Attendance to 80% of the course sessions is compulsory to earn course credits

Registration

Register before February 1, 2025 by writing a mail to lndscourses@gmail.com (with your supervisor in copy) and stating the course title as subject.

Dates and schedule in Spring 2025

The course sessions will take place on **Tuesday afternoons from 16h00 to 18h00** at the CHUV Lausanne. Details on the course schedule and rooms can be found below. **The updated schedule can be found in the course moodle; please consult it to be aware of changes!**

Please see HERE for a map of CHUV course rooms.

Preliminary schedule P2025 - see moodle for updates

Topic	Teacher	Day	Room
Brain tumors	Prof Andreas HOTTINGER	Feb 25	BH08 4 - Mathias Mayor
		March 4	BH08 4 - Mathias Mayor
Traumatic brain injuries	Prof Arseny SOKOLOV	March 11	BH08 3 - Charlotte Olivier
		March 18	BH08 4 - Mathias Mayor
		March 25	BH08 4 - Mathias Mayor
Alzheimer's disease and dementia	Prof Gilles ALLALI	April 1	BH08 4 - Mathias Mayor
		April 8	BH08 4 - Mathias Mayor
		April 15	BH08 4 - Mathias Mayor
Parkinson disease and other movement disorders	Dr Julien BALLY	April 22	BH08 4 - Mathias Mayor
	Julien BALLY & Eduardo MORAUD	April 29	BH08 4 - Mathias Mayor
	Julien BALLY & Cécile HUBSCH	May 6	BH08 4 - Mathias Mayor
Multiple sclerosis and neuroimmunology	Prof Caroline POT	May 13	BH08 4 - Mathias Mayor
		May 20	BH08 1 - Alexandre Yersin
		May 27	BH08 4 - Mathias Mayor