Neurological disorders: From pathophysiology to neuroscience – Autumn Module A

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CHUV and UNIL Lausanne, Switzerland

1.5 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 Fall/ autumn semester course (1.5 ECTS) covers 4 specific neurological disorders, namely epilepsy, stroke, disorders of consciousness, and spinal cord injuries.

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 disorders
  - submission of a 2-page research project proposal on one of the covered neurological disorders (free choice of the student)
- Attendance to at least 80% sessions is compulsory to earn course credits

Registration

Register before September 1, 2024, by writing a mail to lndscourses@gmail.com (with your supervisor in copy) and stating the course title as subject.

Dates and schedule in Autumn 2024

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 2024 - Neurological disorders: From pathophysiology to neuroscience – Autumn Module A – see moodle for updates

Day	*Time*	*Room*	*Teacher*	*Title*
Tue 17.09.2024	*16h00-16h15*	*BH08 4 - Mathias Mayor*	*Gilles ALLALI and/or Philippe RYVLIN and/or Alessandra GRIFFA*	*Introduction to the course*
	16h15-17h00	*BH08 4 - Mathias Mayor*	*Jean Michel PIGNAT*	*Une histoire de la conscience: définitions et concepts / A history of consciousness: definitions and concepts*
	17h15-18h00	*BH08 4 - Mathias Mayor*	*Mauro ODDO*	*Prise en charge des troubles de la conscience aigus sévères / Clinical management of severe acute consciousness disorders*
Tue 24.09.2024	*16h00-16h45*	*BH08 4 - Mathias Mayor*	*Andrea ROSSETTI*	*Pathophysiologie et neurophysiologie des comas / Pathophysiology and neurophysiology of comas*
	17h00-17h45	*BH08 4 - Mathias Mayor*	*Jean Michel PIGNAT*	*Épidémiologie, traitements et pronostic des troubles de la conscience / Epidemiology, treatment and prognosis of consciousness disorders*
Tue 01.10.2024	*16h00-16h45*	*BH08 4 - Mathias Mayor*	*Jean Michel PIGNAT*	*Conscience et approches modernes / Consciousness and modern approaches*
	17h00-17h45	*BH08 4 - Mathias Mayor*	*Marzia DE LUCIA*	*Prédiction de l'Issue du Coma par l'Analyse Quantitative Avancée de l'EEG / Prediction of coma outcome by advanced quantitative EEG analysis*
Tue 08.10.2024	*16h00-16h45*	*Maternité Auditoire-03*	*Davide STRAMBO*	*Stroke: mechanisms and work-up, acute revascularisation, and analysis of clots*
	17h00-17h45	*Maternité Auditoire-03*	*Davide STRAMBO*	
Tue 15.10.2024	*16h00-16h45*	*BT03 - Beaumont*	*Lorenz HIRT*	*Stroke : basic, preconditioning, neuroprotection*
	17h00-17h45	*BT03 - Beaumont*	*Lorenz HIRT*	
Tue 22.10.2024	*16h00-16h45*	*BT03 - Beaumont*	*Patrik MICHEL*	*Stroke: care pathways, stroke units, prevention*
	17h00-17h45	*BT03 - Beaumont*	*Patrik MICHEL*	
Tue 05.11.2024	*16h00-16h45*	*BT03 - Beaumont*	*(Philippe RYVLIN)*	
	17h00-17h45	*BT03 - Beaumont*	*(Philippe RYVLIN)*	

Tue 12.11.2024	*16h00-16h45*	*BT03 - Beaumont*	*(Philippe RYVLIN)*	
	17h00-17h45	*BT03 - Beaumont*	*(Philippe RYVLIN)*	
Tue 19.11.2024	*16h00-16h45*	*BT03 - Beaumont*	*(Philippe RYVLIN)*	
	17h00-17h45	*BT03 - Beaumont*	*(Philippe RYVLIN)*	
Tue 26.11.2024	*16h00-16h45*	*BT03 - Beaumont*	*(Jocelyne BLOCH)*	
	17h00-17h45	*BT03 - Beaumont*	*(Jocelyne BLOCH)*	
Tue 10.12.2024	*16h00-16h45*	*BT03 - Beaumont*	*(Jocelyne BLOCH)*	
	17h00-17h45	*BT03 - Beaumont*	*(Jocelyne BLOCH)*	