**Neurological disorders: From pathophysiology to neuroscience – Autumn Module A**

**Organizers:** Philippe Ryvlin, Gilles Allali

Alessandra Griffa, Davide Mercuri

**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.

Please see HERE for a map of CHUV course rooms.

| Topic | Teacher | Day | Course room |
|---|---|---|---|
| Disorders of consciousness | Dr Jean-Michel PIGNAT | Sept 17 | BH08 4 - Mathias Mayor |
| | | Sept 24 | BH08 4 - Mathias Mayor |
| | | Oct 1 | BH08 4 - Mathias Mayor |
| Stroke | Prof Patrik MICHEL | Oct 8 | Maternité Auditoire-03 |
| | | Oct 15 | BT03 – Hop. Beaumont |
| | | Oct 22 | BT03 – Hop. Beaumont |
| Epilepsy | Prof Philippe RYVLIN | Nov 5 | BT03 – Hop. Beaumont |
| | | Nov 12 | BT03 – Hop. Beaumont |
| | | Nov 19 | BT03 – Hop. Beaumont |
| Spinal cord injuries | Prof Jocelyne BLOCH | Nov 26 | BT03 – Hop. Beaumont |
| | | Dec 3 | BT03 – Hop. Beaumont |