

Qlife

Quantitative Biology Winter School Series

LEARNING AND PLASTICITY IN NEURONAL NETWORKS

MARCH 25TH - 29TH, 2024 - PARIS

LECTURERS & INSTRUCTORS

Athena AKRAMI, London

Boris BARBOUR, Paris

Karim BENCHENANE, Paris

Yves BOUBENEC, Paris

Laurent BOURDIEU, Paris

Alex CAYCO GAJIC, Paris

Guillaume DUGUÉ, Paris

Nicolas GERVASI, Paris

Kishore KUCHIBHOTLA, Baltimore

Christian MACHENS, Lisbon

Rémi MONASSON, Paris

Laëtitia MONY, Paris

Alexandre MOUROT, Paris

Srdjan OSTOJIC, Paris

Nathalie ROCHEFORT, Edinburgh

Lisa ROUX, Bordeaux

Anne URAI, Leiden

Sébastien WOLF, Paris

Aurélien WYNGAARD, Paris

COORDINATORS

Laurent BOURDIEU, Paris

Patrick CHARNAY, Paris

PSL University and its Qlife program in Quantitative Biology organize a winter school that will cover a range of quantitative studies on learning and plasticity.

The neural mechanisms underlying learning and memory can now be studied in behaving animals from the molecular and synaptic scales up to the scale of neural networks. These studies rely on numerous technological innovations, such as the ability to record the activity of large populations of neurons, to interfere with brain activity in genetically-defined neuronal ensembles and to train rodents to perform complex behavioural tasks. At the same time, data-driven neural network models and machine learning algorithms have completely transformed our ability to analyse large neuronal population recordings, behavioural data and learning processes.

The school aims to familiarize participants with the latest concepts and technical developments, as well as with current issues and practical know-how, in the recording and manipulation of neuronal activity, in the design and analysis of rodent behavioural training and in the analysis and modelling of learning in neuronal networks.

The course will include introductory lectures in the morning, followed by digital practicals in the afternoon. The evenings will include keynote speaker seminars and poster presentations by the students.

Common lunches and dinners with the speakers and instructors will foster informal discussions.

The winter school is limited to 25 participants. It is open to Master 2 and PhD students, as well as postdocs, engineers and junior scientists with backgrounds in life science, cognitive science, physics, computer science or mathematics.

Basic experience in file manipulation under Unix/Linux and in Python or R programming is required.

Additional information is available on: <https://www.edu.bio.ens.psl.eu/spip.php?article276>

APPLICATION DEADLINE JANUARY 28TH, 2024

REGISTRATION FEES: 150 € *

- Registration link: <https://forms.office.com/e/DdMKqpjESE>
- In addition, provide a CV, a 1 page motivation letter (including justification for travel grant if requested) and a supporting letter from a supervisor with "Qlife Neuronal Networks Winter School 2024_LASTNAME" as subject header to Aida.Fakhr@curie.fr

* Fees cover food and lodging from Monday morning to Friday afternoon.
Some travel grants will be available.

