Several postdoctoral openings in the lab of Rava Azeredo da Silveira

(Paris & Basel)

The lab of Rava Azeredo da Silveira invites applications for Postdoctoral Researcher positions at ENS, Paris, and IOB, an associated institute of the University of Basel.

Research questions will be chosen from a broad range of topics in theoretical/computational neuroscience and cognitive science (see the description of the lab’s activity, below). One of the postdoc positions to be filled in Basel will be part of a collaborative framework with Michael Woodford (Columbia University) and will involve projects relating the study of decision making to models of perception and memory.

Candidates with backgrounds in mathematics, statistics, artificial intelligence, physics, computer science, engineering, biology, and psychology are welcome. Experience with data analysis and proficiency with numerical methods, in addition to familiarity with neuroscience topics and mathematical and statistical methods, are desirable. Equally desirable are a spirit of intellectual adventure, eagerness, and drive.

The positions will come with highly competitive work conditions and salaries.

Application deadline:

For full consideration, please apply by 30 October 2020.

How to apply:

Please send the following information in one single PDF, to silveira@job.ch:

1. letter of motivation;
2. statement of research interests, limited to two pages;
3. curriculum vitae including a list of publications;
4. any relevant publications that you wish to showcase.

In addition, please arrange for three letters of recommendations to be sent to the same email address. In all email correspondence, please include the mention “APPLICATION-POSTDOC” in the subject header, otherwise the application will not be considered.

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ENS, together with a number of neighboring institutions (College de France, Institut Curie, ESPCI, Sorbonne Université, and Institut Pasteur), offers a rich scientific and intellectual environment, with a strong representation in computational neuroscience and related fields.

IOB is a research institute combining basic and clinical research. Its mission is to drive innovations in understanding vision and its diseases and develop new therapies for vision loss. IOB is an equal-opportunity employer with family-friendly work policies.
The Silveira Lab focuses on a range of topics, which, however, are tied together through a central question: How does the brain represent and manipulate information?

Among the more concrete approaches to this question, the lab analyses and models neural activity in circuits that can be identified, recorded from, and perturbed experimentally, such as visual neural circuits in the retina and the cortex. Establishing links between physiological specificity and the structure of neural activity yields an understanding of circuits as building blocks of cerebral information processing. On a more abstract level, the lab investigates the representation of information in populations of neurons, from a statistical and algorithmic—rather than mechanistic—point of view, through theories of coding and data analyses. These studies aim at understanding the statistical nature of high-dimensional neural activity in different conditions, and how this serves to encode and process information from the sensory world.

In the context of cognitive studies, the lab investigates mental processes such as inference, learning, and decision-making, through both theoretical developments and behavioral experiments. A particular focus is the study of neural constraints and limitations and, further, their impact on mental processes. Neural limitations impinge on the structure and variability of mental representations, which in turn inform the cognitive algorithms that produce behavior. The lab explores the nature of neural limitations, mental representations, and cognitive algorithms, and their interrelations.