The Electrosensory Cocktail Party Problem - PhD position at Bernstein Center Berlin & Humboldt University (Physics Dep.)

*Weakly nonlinear interactions in an electrosensory cocktail party problem*

Within the DFG priority program "Evolutionary Optimisation of Neuronal Processing", we are looking for a PhD candidate to work on the detection of weak signals in the presence of much stronger distractors, a joint project with the experimental lab of Jan Benda (University Tubingen, Germany). The 'cocktail party problem' is here regarded as a general theoretical problem and will be explored by the successful candidate by means of analytical calculations and numerical simulations of stochastic models of spiking neurons. Beyond pursuing purely theoretical approaches, the main goal of this project is to understand weakly nonlinear interactions specifically in the electrosensory system of weakly electric fish, an experimental model system of the Benda lab.

In order to get an idea about similar approaches pursued in the past, have a look at some of the joint publications of the Benda lab and the Lindner group:


The successful candidate should have a degree in physics, mathematics or computational neuroscience (a background in neurobiology is desirable but not obligatory), programming skills (C++, Python, LaTeX, Linux), an excellent command of the English language, good communication skills, team spirit, and, last but not least, great enthusiasm for interdisciplinary projects.

Funding is provided for three years, starting within the next three months. For details on the doctoral examination process at the Physics Department of Humboldt University Berlin, see https://fakultaeten.hu-berlin.de/en/mnf/wisskar/promotionen/zula.

Applications, including a letter of motivation, a CV, and a list of three potential referees should be sent by email to me benjamin.lindner@physik.hu-berlin.de (cc to nikola.schrenk@bccn-berlin.de)

The deadline for applications is April 26, 2020, however, later applications might also be considered.

Kind regards,
Benjamin Lindner

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http://people.physik.hu-berlin.de/~lindner/index.html