



Postdoctoral Fellowship in Cognitive Neuroscience

Job description

A postdoctoral research fellowship (SKO1352) in cognitive neuroscience is available at [RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion](#) at the University of Oslo.

RITMO is a Centre of Excellence funded by the Research Council of Norway. This interdisciplinary centre focuses on rhythm as a structuring mechanism for the temporal dimensions of human life. Methods from musicology, psychology, neuroscience, and informatics are combined to study rhythm as a fundamental property that shapes and underpins human cognition, behavior and cultural expressions.

All RITMO researchers will be co-located and work in a unique interdisciplinary constellation, with world-leading competence in musicology, psychology and informatics. It is expected that all members of the center contribute to the general activities and collaborations within RITMO. The researchers have access to state-of-the-art facilities in sound/video recording, motion capture, eye tracking, physiological measurements, various types of brain imaging (EEG, fMRI), and rapid prototyping and robotics laboratories.

More about the position

The postdoctoral researcher will work on the project "[Neurophysiological Mechanisms of Human Auditory Predictions: From population- to single neuron recordings](#)", funded by the Research Council of Norway. The fellow will work in close collaboration with the project leader and a Ph.D. student, and will have a main affiliation with [Front NeuroLab](#) and the [Structure and Cognition Cluster](#) at RITMO.

The overarching aim of the project is to identify the neurophysiological basis of auditory predictions beyond "classical" auditory areas. We will record electrical signals directly from the brains of patients with epilepsy (implanted with electrodes for clinical reasons) while they for example listen to streams of regular sounds that are occasionally replaced by unexpected events. We aim to delineate how distinct brain areas play different roles and interact in encoding auditory regularities, predicting upcoming sounds, and detecting unexpected sounds or silences. The interaction between attention and predictions will also be addressed.

The work of the postdoctoral fellow will have a particular focus on the role of neuronal populations during prediction of regularities of auditory stimuli. The candidate will work with local field potentials (intracranial EEG/iEEG/SEEG/ECOG), and single- and multi-unit activity (SUA/MUA) obtained from patients with epilepsy. We aim to understand how "prediction" and "prediction error" signals are encoded in the human brain, and how these signals are communicated between cortical and subcortical areas.

In collaboration with interdisciplinary research staff, the fellow will develop a subproject that addresses core research questions of the overarching project. She/he is expected to be involved in all aspects of the research, including experimental design, data collection in a clinical setting, signal analysis, and publishing results related to the project aims.

The project will be conducted in collaboration with the Department of Neurosurgery at Oslo University Hospital, Norway, the Department of Psychology/Helen Wills Neuroscience Institute at UC Berkeley, USA, and the Neurosciences and Complex Systems Unit at El Cruce Hospital - CONICET, Argentina. Moreover, meetings with the project scientific advisory board are expected (Lucia Melloni, Karl Friston, Robert T. Knight, and Anne-Kristin Solbakk).

The appointment is for a duration of three years, starting April 1st, 2022. A 4th year can be considered with the addition of 25 % teaching requirements, depending on the qualifications of the recruited candidate, departments' needs for teaching, and the centre's need for assistance. The candidate will be enrolled in the [RITMO Career Development Programme](#).

The successful candidate is expected to be part of the research environment of RITMO and contribute to strengthening the links between different research areas within the centre. The main purpose of postdoctoral research fellowships is to qualify researchers for work in higher academic positions within their disciplines.

Qualification requirements

- A Ph.D. in neuroscience, biology, physics, biomedical engineering, medicine, or related field. The applicant is required to document that the degree corresponds to the profile for the post. The Ph.D. thesis must have been submitted by the time of applying and approved before the start of the postdoctoral fellowship.
- Experience with a) signal processing of brain activity data, b) scientific programming in Matlab, Python, or any other programming languages, and c) statistics.
- Knowledge of cognitive experimental designs is an advantage.
- Prior experience with single-unit or multi-unit activity data analysis (human or animal research) is a significant advantage.
- Excellent skills in written and oral English.
- Personal suitability and motivation for the position

In assessing the applications, particular emphasis will be placed on:

- The applicant's scientific merit, research background, and motivation for the position.
- The candidate's proposed research project relevance to the project's and RITMO's research profile.
- The applicant's estimated academic and personal ability to complete the project within the time frame.
- Capability to work independently, as well as good collaboration skills to join interdisciplinary academic communities.

We offer

- salary level 534 400-615 800 NOK per annum, depending on qualifications
- a professionally stimulating working environment
- [attractive welfare benefits](#)
- membership in the [Norwegian Public Service Pension Fund](#)

How to apply

Applications must include:

- Application letter describing the applicant's qualifications and motivation for the position.
- Curriculum Vitae (complete list of education, positions, teaching experience, administrative experience and other qualifying activities, including a complete list of publications with links to full version of published papers).
- Research outline, including relevant research questions and theoretical and methodological approaches (approximately 2-3 pages, see the [template for research outline](#)).
- Names and contact details of 2-3 references (name, relation to candidate, e-mail, and telephone number).

Diplomas, certificates, doctoral thesis, and other academic works will be requested later.

The application with attachments must be delivered in our electronic recruiting system, [jobbnoe.no](#).

Please note that all documents must be in English or a Scandinavian language and preferably in pdf format.

The short-listed candidates will be invited to an interview.

Formal regulations

Please see the [guidelines and regulations](#) for appointments to Postdoctoral fellowships at the University of Oslo.

No one can be appointed for more than one Postdoctoral Fellow period at the University of Oslo.

According to the Norwegian Freedom of Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

Inclusion and diversity are a strength. The University of Oslo has a personnel policy objective of achieving a balanced gender composition. We also want to have employees with diverse expertise, combinations of subjects, life experience and perspectives. We will make adjustments for employees who require this.

If there are qualified applicants with special needs, gaps in their CVs or immigrant backgrounds, we will invite at least one applicant in each of these groups to an interview.

Contact information

HR Adviser Hilde Kristine Sletner, e-mail: h.k.sletner@hf.uio.no

Head of Administration Anne Cathrine Wesnes, e-mail: a.c.wesnes@imv.uio.no, phone number: +47 22 85 44 89

About the University of Oslo

The University of Oslo is Norway's oldest and highest ranked educational and research institution, with 28 000 students and 7000 employees. With its broad range of academic disciplines and internationally recognised research communities, UiO is an important contributor to society.

RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion is financed through the Research Council of Norway's Centre of Excellence Scheme.

RITMO combines a broad spectrum of disciplines - from musicology, neuroscience and informatics - to study rhythm as a fundamental property of human cognition, behaviour and cultural expression. The Centre is organized under the Department of Musicology, in close collaboration with the Department of Psychology and the Department of Informatics.

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