



# Postdoctoral Research Fellowship in Rhythmic Robotics

## About the position

A Postdoctoral Research Fellowship (SKO 1352) in Rhythmic Robotics 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 are 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 centre 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.

## Job description

The postdoctoral fellow will carry out research on the development of machine systems (simulations and robots) that can interact rhythmically and/or musically with each other and with humans. In both cases, the models will need to sense, predict and adapt to complex, composite and changing oscillating systems (rhythms). The research will be inspired by mechanisms found in nature, such as neural oscillations, central pattern generators, and synchronisation mechanisms in fireflies, as well as insights from cognitive neuroscience. The work may also include verification on real-world robotic platforms.

The appointment is for a period of three years, starting 1 September 2019. There might be a possibility to extend to four years depending on the qualifications of the recruited candidate, the departments' needs for teaching, and the centre's need for assistance.

The successful candidate is expected to become part of the research environment/network of RITMO and contribute to its development. The main purpose of postdoctoral research fellowships is to qualify researchers for work in higher academic positions within their disciplines.

## Qualification requirements

- A PhD degree or equivalent in robotics, informatics, computer science, mathematics, or other relevant field. The applicant is required to document that the degree corresponds to the profile for the post.
- Personal suitability and motivation for the position
- Strong programming and modelling skills
- Experience with AI and machine learning techniques
- Experience with robotics is positive, both simulation, real robot experimentation, and prototyping
- It is also positive with knowledge of music theory, music information retrieval, music cognition, and experience with motion capture, eye tracking and physiological sensing methods
- Excellent skills in written and oral English
- The candidate's proposed research project must be closely connected to RITMO's research profile

The doctoral dissertation must have been submitted for evaluation before the application deadline, and have been approved by the time of appointment. No one can be appointed for more than one postdoctoral period at the University of Oslo.

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

- the applicant's scientific merit, innovation, and research-related relevance to the objectives of RITMO
- the quality of the research outline
- the applicant's estimated academic and personal ability to carry out his/her research within an allotted time frame and contribute to the research objectives of RITMO
- excellent collaboration skills and the ability to successfully join in academic teamwork within and across disciplines.

## We offer

- salary NOK 515 200 - 597 400, depending on qualifications
- a professionally stimulating working environment
- [attractive welfare benefits](#)
- membership in the Norwegian Public Service Pension Fund

## How to apply

Applicants must submit the following attachments with the electronic application, preferably in pdf format:

- 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 [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.

Please note that all documents must be in English.

The short-listed candidates will be invited to an interview at the University of Oslo or we will arrange for a video-based interview.

## Formal regulations

See also Regulations concerning [Post-Doctoral Research Fellowships](#).

Following the Freedom of Information Act (Offentleglova) § 25, Chapter 2, information about the applicant may be used in the public list of applicants even if the applicant opts out from the entry in the public application list.

The University of Oslo has an [Acquisition of Rights Agreement](#) for the purpose of securing rights to intellectual property created by its employees, including research results.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

## Contact information

Head of Administration Anne Cathrine Wesnes, [a.c.wesnes@imv.uio.no](mailto:a.c.wesnes@imv.uio.no), +47 22 85 44 89

HR Adviser Hilde Kristine Sletner, [h.k.sletner@hf.uio.no](mailto:h.k.sletner@hf.uio.no)

## 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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