



Doctoral Research Fellowship in Rhythmic Robotics

About the position

A Doctoral Research Fellowship (SKO 1017) 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 doctoral 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 also includes 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 the appointment to 4 years depending on the qualifications of the recruited candidate, the department's need for teaching, and the centre's need for assistance.

Qualification requirements

- A Master's 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. The Master's Degree must have been obtained by the time of application.
- Personal suitability and motivation for the position.
- Strong programming and modelling skills.
- Experience with robotics (simulation, real robot experimentation, prototyping).
- Experience with AI and machine learning techniques.
- It is also positive with knowledge of music theory, music information retrieval and music cognition, and experience with motion capture, eye tracking and physiological sensing methods.
- [Excellent skills in written and oral English.](#)

The Faculty of Mathematics and Natural Sciences has a strategic ambition of being a leading research faculty. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials.

The purpose of the fellowship is research training leading to the successful completion of a PhD degree. The fellowship requires admission to the PhD programme at the Faculty of Mathematics and Natural Sciences. The application to the PhD programme must be submitted to the department no later than two months after taking up the position. For more information see:

[Doctoral degree and PhD at the University of Oslo](#)

[Doctoral degree: PhD in Mathematics and Natural Sciences](#)

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

- the applicant's scientific merit, as well as the quality of the research outline and its relevance to the research objectives of RITMO
- the applicant's estimated academic and personal ability to complete the project within the time frame
- the applicant's ability to complete research training
- very good collaboration skills and an ability to join interdisciplinary academic communities.

Applicants who have recently graduated with excellent results may be given preference.

We offer

- salary NOK 449 400 - 505 800,- per annum depending on qualifications in a position as PhD Research fellow
- 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](#))
- transcript of records of your Master's degree. Applicants with education from a foreign university are advised to attach an explanation of their university's grading system
- [documentation of English proficiency](#)
- names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number).

Please note that all documents must be in English.

Educational certificates, master theses and the like are not to be submitted with the application, but applicants may be asked to submit such information or works later.

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

Formal regulations

See also Guidelines for [appointments](#) to research fellowships.

Following the Freedom of Information Act (Offentleglova) § 25, Chapter 2, demographic 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

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HR Adviser Hilde Kristine Sletner, 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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