



## RITMO Centre for Interdisciplinary Studies in Rhythm, Time and Motion

### Post-Doctoral Research Fellowship in Entrainment and Adaptation in Musical Multi-robot Systems

#### Job description

A Post-Doctoral Research Fellowship (SKO 1352) in Entrainment and adaptation in musical multi-robot systems 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, behaviour 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.

#### More about the position

The postdoctoral fellow will work on musical robot applications, with a focus on rhythmic processes. This will be done using heterogeneous robot collectives which may also be extended to interact with humans. The adaptation methods will build on artificial intelligence, bio-inspired, or psychology-inspired methods, and collaboration with researchers in other robotic domains is possible.

It is expected that the postdoctoral fellow will contribute to further development of the open-source hardware and software platforms developed at RITMO, such as [Dr. Squiggles](#) and the [self-playing guitars](#). This will include development of the algorithms for the platforms, and real-life experiments with the robots. The postdoctoral fellow will have a main affiliation with the [Interaction and robotics cluster](#) at RITMO.

The appointment is for a period of three years, starting 1 September 2021. 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 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 PhD degree or equivalent in robotics, computer science, or other relevant field. The applicant is required to document that the degree corresponds to the profile for the post.
- Experience with robotics techniques (e.g. real robot experimentation, development and prototyping of robotic platforms, swarm robotics)
- Experience with artificial intelligence topics (e.g. bio-, neuroscience-, or psychology-inspired methods)
- It is positive with experience with music technology and musical robotics
- Strong programming skills and experience with mathematical modelling, complex systems, and multi-agent systems are advantageous
- Open science and open source software and hardware development skills are an added asset
- Experience with working across disciplines is an advantage
- Excellent skills in written and oral English
- The candidate's proposed research project must be closely connected to RITMO's research profile
- Personal suitability and motivation for the position

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 526 000 - NOK 608 200 per annum depending on qualifications

- a professionally stimulating working environment
- membership in the [Norwegian Public Service Pension Fund](#)
- [attractive welfare benefits](#)

## 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 [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 or a Scandinavian Language.

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

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.

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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## About the University of Oslo

Jobbnorge ID: 197549, Deadline: 15.02.2021, Customer reference: 2020/13451