



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.

Doctoral Research Fellowships in Artificial Intelligence on Musical/Human/Robotic Rhythm

One or two Doctoral Research Fellowships (SKO 1017) in Artificial Intelligence on Musical/Human/Robotic Rhythm are 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.

Job description

The PhD fellow(s) will carry out research on artificial intelligence methods to be used in (1) the analysis of human/musical rhythm and/or (2) synthesis of rhythms in robotic systems. The project(s) may therefore range from focusing more on theoretical development and computer-based testing, to focusing more on developing machine systems (simulation and robots) that can interact rhythmically 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 and synchronisation mechanisms in fireflies, and will be considered from a (computational) self-awareness context. The fellow(s) will work on sub-projects within the "Motion and Machines" cluster of RITMO.

The appointments are for a period of three years, starting 15 August 2018. There might be a possibility to extend to four years depending on the qualifications of the recruited candidate, the department's need for teaching and the centre's need for lab assistants.

Qualifications/requirements

- A Master's degree or equivalent in informatics, computer science, mathematics, robotics or other relevant fields. 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.
- Strong programming and modelling skills
- Experience with data pre-processing, feature extraction, and different machine learning techniques (unsupervised, supervised, reinforcement learning), and/or experience with robotics techniques (simulation, prototyping, control)
- It is also positive to have knowledge of music theory, music information retrieval, and one or more of the human data capturing methods available in RITMO
- [Fluent oral and written communication skills in English](#)
- Very good collaborative skills

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](#)

We offer

- salary level NOK 436 900 - 490 900, 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](#))
- 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 to an interview at the University of Oslo or we will arrange for a video-based interview.

Formal regulations

See also guidelines and regulations for [appointments to Research Fellowships at the University of Oslo](#).

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.

Application deadline: 31 January 2018

Contacts:

[Administrative Coordinator Anne Cathrine Wesnes](#)

[Personnel Adviser Evian Nordstrand](#) (questions on electronic application)

Jobbnorge ID: 144121, Deadline: Closed