



UNIVERSITY OF ICELAND

PhD scholarship

INTENT - ERC Funded Project: Intelligent Instruments: Understanding 21st Century AI Through Creative Music Technologies

The Intelligent Instruments Lab at the Iceland University of the Arts, in collaboration with the Department of Comparative Cultural Studies at the University of Iceland, invites applications for a PhD scholarship as part an European Research Council funded project called “Intelligent Instruments: Understanding 21st Century AI Through Creative Music Technologies”. We seek applications from highly qualified and motivated people to contribute to the first work package of the project, focussing on the phenomenology of intelligent instruments. The successful candidate will undertake a 3-year PhD programme working on an individual research project within the frame of the ERC project. The project will focus on how artificial intelligence can be embedded within musical instruments and study the phenomenology of such instruments, the psychology of performing, and how we can foster an understanding of the internals of new intelligent technologies. The candidate will have a musical background (formal or not), practical knowledge of programming and artificial intelligence, and a general interest and understanding of philosophy, in particular phenomenology.

The position is for three years and it is expected that the candidate will start on September 1st, 2021.

Director of Studies: Prof. Thor Magnusson.

The research programme

Artificial Intelligence is becoming increasingly human-like and it is now proficient in a key human activity: musical creativity. The Intelligent Instruments project takes a novel approach in creative AI research by answering how new AI transforms our relationships with technology and other people. We seek to understand how creative AI changes our notions of art, culture and society, through developing new musical instruments as a vehicle for interdisciplinary collaboration.

This project aims to use music as a platform to establish a public understanding of AI. Through technology development, we will create the conditions to study higher-level theoretical questions on the meaning of creative AI in contemporary culture. Three respective work packages will develop: 1) instruments with creative AI; 2) human-AI collaboration in music; and 3) sonic instruments as scientific instruments. The project initiates a public discourse on creative AI and develops a theoretical framework describing the transformed notions of self, others and knowledge when we adopt intelligent instruments in our work.

The Intelligent Instruments project is interdisciplinary in nature. Through a new research collaboration protocol, we will summon researchers from diverse disciplines to conduct frontier science on intelligent instruments as boundary objects. Through open science methods the outcomes will address: a) the role of creative AI in embodied technologies, and b) the understanding and reflection of artificial intelligence in future society. Grounded equally in technology development and the humanities, the project will benefit diverse disciplines by developing a theoretical framework of creative AI, initiating a discourse around human-centred creative AI, and defining principles of human-AI relations in services and products.

The project does not have a website yet, but further information can be found here:

www.sonicwriting.org/blog/intent

The research environment

The candidate will work in the Intelligent Instruments Lab at the Iceland University of the Arts in Reykjavik for the duration of the 3-year scholarship. Other lab members are the principal investigator (Thor Magnusson), two postdocs (Jack Armitage and Kit Braybrooke), an instrument maker (Halldor Ulfarsson) and an admin. Other lab members include visiting researchers, MA students, local and international collaborators. In addition to the lab's technical workshop, the candidate has access to the university workshops, including 3D printing, laser cutting and CNC. The candidate will be registered for a PhD in Cultural Studies at the University of Iceland and receive academic training through the university's doctoral studies infrastructure. The supervisors will be Prof Thor Magnusson (45% - music at Iceland University of the Arts), Prof Björn Thorsteinsson (45% - philosophy at University of Iceland), and Prof Andy Clark (10% - philosophy at University of Sussex).

Working in the Intelligent Instruments Lab will involve a close collaboration with the lab team on technical and theoretical development, communicating both practical and theoretical findings in concerts, symposia and conferences as well as in written form. The post will involve working with international researchers of excellence in our experimental setup, and it will include travel and participation in residencies at international research institutions.

Salary: The scholarship is a **3-year full-time employment contract**. The salary is 440,000 ISK per month before tax, or approx. € 2,900 EUR at today's exchange rate.

Qualification requirements

The candidate will have a musical background (formal or not), practical knowledge of programming and artificial intelligence, and general interest and understanding of philosophy, in particular phenomenology. A suitable candidate should:

- Hold a Master's degree in one of the following fields: music, computer science, philosophy, cognitive science, cultural studies or psychology. Comparable degrees and degrees in related fields will be considered.
- Have some practical experience of interface design or musical instrument design, and ideally of hardware and software development. Experience in programming machine learning is desirable.
- Demonstrate a theoretical understanding of artificial intelligence, usability studies and phenomenology in interface design and/or new music technology.
- Have an experience or understanding of making and performing music.

- Be highly motivated, organised and have a personal commitment to the success of the research project as a whole.
- Be a good team worker, ready to collaborate with the PI/Director of Studies, postdocs, other PhD students, as well as visiting artists and MA students on shared goals and experiment design.
- Have an excellent command of written and spoken English.

We are committed to providing an inclusive working environment and we strongly encourage people of diverse backgrounds to apply, for example people who consider themselves underrepresented in this research field.

Application process

The application should include the following documents and information. All documents should be submitted in English.

1. A one-page cover letter describing your academic and professional background and how these make you suitable for the position.
2. A project proposal. In the proposal you describe what you aim to research under the rubric of the Intelligent Instruments research programme. We seek projects that engage with machine learning in new musical instruments with a phenomenological approach. A good proposal will include a clear contextualisation, research questions, research methods to answer those questions, a description of outputs, a 3-year work plan and a bibliography. Please use the Proposal Template.
3. A CV (max 4-pages). Any publications or conference presentations should be listed.
4. Degree certificates of your Bachelor and Master's degrees.
5. The names of two referees with contact information.

All applications will be answered and a selection of applicants will be invited for an interview to be held virtually.

The deadline for submission is May 17th, 2021. Candidates will be shortlisted in late May and interviews will take place in the first week of June. The appointment will be decided shortly thereafter. Applications should be sent in a compressed folder to intent-admin@lhi.is

The post is a collaboration between the Iceland University of the Arts and the University of Iceland. Appointments are made in consideration of the [Equal Rights Policy](#) of the University of Iceland.

Any further information about the post can be provided by the PI – thor.magnusson@lhi.is
Information about working in Iceland can be found here: <https://www.lhi.is/en/information-new-students>