nonclassical x RNCM PRiSM
OPEN CALL FOR COMPOSERS &
SOUND ARTISTS

Nonclassical and RNCM (Royal Northern College of Music) Centre for Practice & Research in Science & Music (PRiSM) invite composers and sound artists to apply for the opportunity to create a new work using PRiSM's Artificial Intelligence facilities to be devised for presentation at a Nonclassical event.

One composer or sound artist will be appointed by a selection panel to work closely with the PRiSM team and Simon Knighton (Nonclassical Associate Composer 2021/22) in June 2022 to create a new work using the machine-learning Artificial Intelligence facilities at the PRiSM labs in Manchester.

The selected artist will have the opportunity for the work to receive its premiere at an event curated by Simon Knighton as part of the Nonclassical Associate Composers Scheme 2021/22, taking place at a London venue in Autumn 2022. The resulting work will engage with themes around 'dynamical systems' found in nature, the subject of the wider event.

The artist will be required to submit a sound data set of one hour of material to PRiSM to train the AI machine (existing or new work), following which 2-3 meetings will take place with a Research Software Engineer and the PRiSM AI machine (in person or remotely, at the composer's discretion) to finalise the work.

2022 Timeline

FRI 4 FEB (12 noon)	Deadline for submissions
MON 28 FEB	Selection of composer
MON 16 MAY	Deadline for submission of sound dataset to PRiSM for AI training.
JUNE (flexible)	Two-week AI training period with PRiSM Research Software Engineer
THU 1 SEP (12 noon)	Deadline for completed work.
AUTUMN TBC	Premiere at Nonclassical event, curated by Associate Composer Simon Knighton

What is AI and Machine Learning?

Please read the following link for more information:

https://www.rncm.ac.uk/research/research-centres-rncm/prism/prism-collaborations/prism-samplernn/

What will the process of working with the PRiSM team look like?

After initial correspondence with members of the team to discuss intentions and possibilities, the chosen composer will need to send a c.1hr dataset of (musical audio samples) through to the PRiSM Research Software Engineer (RSE), who will use this to train the AI machine. Training the AI machine takes approximately two weeks to complete. Over this two-week training period the composer will be required to meet with the RSE (either remotely or in person) to discuss different options for the AI machine training. The RSE will then deliver the outputs to you to use in your composition.

The following posts outline previous PRiSM projects which use this technology and may help to clarify the process:

https://www.rncm.ac.uk/research/research-centres-rncm/prism/prism-blog/aura-machine/
https://www.rncm.ac.uk/research/research-centres-rncm/prism/prism-blog/speak-sing/

More blog entries on various aspects of science and music can be viewed here:
https://www.rncm.ac.uk/research/research-centres-rncm/prism/prism-blog/

How does this fit with the wider project?

Sitting on the boundary between concert and installation, this project explores dynamical systems and the environments in which they can be found. The premiere performance will take place in Autumn 2022 and is curated by Nonclassical Associate Composer Simon Knighton, produced in partnership with Nonclassical, PRiSM (RNCM Centre for Practice & Research in Science & Music) and Lasse Rempe-Gillen (Professor of Pure Mathematics at Liverpool University).

The programme of the event is centred around two new works which artistically explore the concept of dynamical systems as they appear in natural environments. One new work will be created by Simon Knighton and the other by a composer / sound artist selected through this open call which will support new   work to be devised exploring the AI technology in the PRiSM labs (at RNCM), dynamical systems and musical composition/performance.

These new works will be programmed alongside existing works related to the theme of either dynamical systems or natural environments.
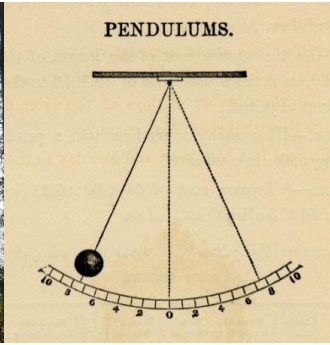
What is a dynamical system?

A dynamical system can be hard to define, and as such can become a rich and fertile area of artistic exploration. Here are some definitions:

- A dynamical system is a system whose state evolves with time over a state space according to a fixed rule.

- A dynamical system is all about the evolution of something over time. To create a dynamical system we simply need to decide (1) what is the "something" that will evolve over time and (2) what is the rule that specifies how that something evolves with time. In this way, a dynamical system is simply a model describing the temporal evolution of a system.

- In mathematics, a dynamical system is a system in which a function describes the time dependence of a point in a geometrical space. Examples include the mathematical models that describe the swinging of a clock pendulum, the flow of water in a pipe, and the number of fish each springtime in a lake.

In its purest form, a dynamical system is an abstract mathematical concept. As with most mathematical/scientific concerts, it can be understood by non-specialists through analogy and metaphor (and also potentially be expanded into the realms of science fiction). This project will artistically explore the meaning and flexibility of the term with the aim of broadening an audience's view of the world.

If you would like any further clarification on the theme, please contact Simon Knighton (contact below).

Who are we looking for?

We are looking for composers and sound artists with a keen interest in the intersection between music, nature, maths and science.

Proposals which either engage with themes around nature or dynamical systems will be considered, though ideally the proposal will engage with both concepts together.

Musical style or genre is largely irrelevant, though pieces which creatively use the surround sound set up of the concert are particularly welcome.

Performance set-up

The project blends acoustic instruments with electronically produced sound in an in-the-round set-up. Elements of installation type pieces will be mixed with 'spatialised' versions of existing pieces. The aim is to create a high-fidelity immersive experience which surrounds the audience.
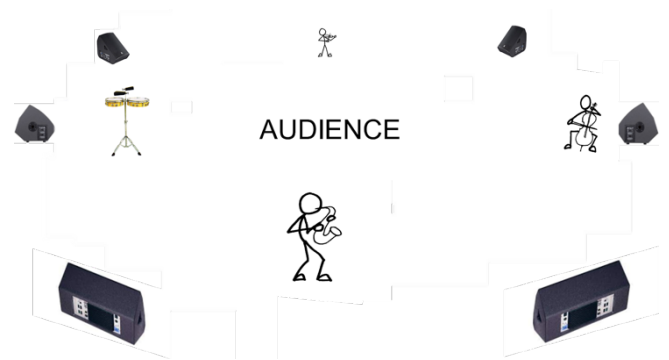
Instrumentation

A violinist and cellist are confirmed for the project.
Clarinet/saxophone and percussion are the other two most likely instruments (TBC), and electronics.

Do I have to compose for all the instruments and the electronics?

No – we are happy to receive proposals using only acoustic instruments, or only electronics, though preference may be shown to proposals which integrate the use of all available forces. Please email Simon for specific questions about the electronics set-up (contact address below).

What is the fee?

£2,000 inclusive of any VAT and expenses.

How long should the piece be?

We are flexible – 5-10 minutes is suggested depending on style, aesthetic, genre, and how the piece will fit with the whole programme.

How do I apply?

To apply please fill out this Google form by **12 noon Friday 4th February 2022**:

https://forms.gle/dGNhwH11m6hzTX326

The questions for the proposal are as follows:

- Link to Bio/CV
- Briefly summarise the piece you would like to create if you're selected and how it relates to the theme of nature and/or dynamical systems. (Optional: If you have any initial ideas about how you might incorporate AI into the creative process, please include them)
- Briefly summarise any initial thoughts on technical requirements for performance, how the piece could make use of the surround sound staging
- Please submit links to two examples of your work (i.e. Dropbox /Soundcloud /YouTube etc.) and link to a copy of the score if possible. A software or MIDI recording is fine. Please note we cannot accept downloads. If you are submitting a password protected link, please write the password after the link. We are especially keen to hear any examples of your work which engage with themes around either science, maths or nature.
- Equal Opportunities monitoring form. These questions are optional, and your answers will help us understand if we're meeting our objectives. These responses are anonymous and data will be used collectively in an anonymous format and will not be used in the selection process.

Who will be on the selection panel?

Professor Emily Howard
Simon Knighton,
Natalia Franklin Pierce
Dr Sam Salem
Sophie Haynes (administrative)

FAQs

Q: *Do I need to have experience using AI to apply?*

A: No, we are happy to receive applications from artists whether they have worked with AI historically or not.

Q: *Do I need to be based in the UK?*

A: Yes, all applicants must be based in the UK.

Any other questions?

Please email :
Simon Kighton simon.knighton@student.rncm.ac.uk
Sophie Haynes sophie@nonclassical.co.uk

For further information, please visit:
RNCM Centre for Practice & Research in Science & Music (PRiSM): www.rncm.ac.uk/research/research-centres-rncm/prism/
Nonclassical www.nonclassical.co.uk
Simon Knighton www.simonknighton.com