

Call for applications for a residency and grant for an artistic project within the Swiss National Centre of Competence in Research (NCCR) Evolving Language

Introduction

The Embassy of Foreign Artists (EOFA) residency programme is partnering with Foundation Campus Biotech Geneva (FCBG) to offer the opportunity to apply for research and production residencies for a project linked with the work of the the Swiss National Centre of Competence in Research (NCCR) Evolving Language.

1. Presentation

The purpose of the call is to offer residencies to professional artists from all fields (visual arts, dance, theatre, music, writing, comic books, film, etc.), whose project would take inspiration from the cutting-edge research conducted by the partner laboratories active within Campus Biotech.

The goal of these residencies is to promote exchanges and intersections between scientific practices and artistic practices. They are intended to encourage the emergence of new ways of formulating, perceiving and using both scientific and artistic research. Through connections between the fields, a better understanding of each respective fields of research will be fostered.

The reflections and exchanges will lead to the creation of new works, or the adaptation of pre-existing works that could be integrated with, or adapted to, the experiments conducted in the laboratories, and/or complement them. The results of each residency will be presented at a public event within Campus Biotech or at a partner institution. They could be the subject of a publication in specialized scientific journals.

2. Partners

Foundation Campus Biotech Geneva

Within Campus Biotech, Foundation Campus Biotech Geneva (FCBG) is a non-profit foundation created by the EPFL, UNIGE and the Canton of Geneva. Its mission is to support the research activities of academic research groups, the Wyss Center for Bio and Neuro Engineering and start-ups based on the Campus Biotech site. In particular, FCBG hosts a variety of scientific platforms dedicated to the local, national and international neuroscientific community. These include for instance the only MEG in Switzerland, Ultra High Field MRI scanners, microfabrication platforms or Virtual Reality developers.

<https://fcbg.ch>

Embassy of Foreign Artists

The Embassy of Foreign Artists is a residency programme founded in 2012. The goal of our organisation is to welcome artists, cultural actors, active citizens, and researchers, either individually or collectively, and to offer them logistical and financial support to develop their activities. We take advantage of our network to help spread their practices and projects. Our spaces accommodate the various stages of the creative process, from the first thoughts and tentative steps to its presentation in a completed form. EOFA also organises meetings between local artists and residents at events revolving around different artistic practices.

<https://www.eofa.ch>

3. The laboratory

NCCR EVOLVING LANGUAGE

More than just a lab, the Swiss National Centre of Competence in Research (NCCR) Evolving Language is a nationwide interdisciplinary research consortium bringing together research groups from Psychology, Medicine, Philosophy & Ethics, Linguistics, Computer Science & Mathematics, Biology & Anthropology and Neuroscience at an unprecedented level. It aims to solve one of the greatest human mysteries: What is language? How did our species develop the ca-pa-city for linguistic expression, for processing language in the brain, and for consistently passing down new variations to the next generation? How will our capacity for language change in the face of digital communication and neuroengineering? In a nutshell, the NCCR Evolving Language explores the fascinating past, present and future of language.

4. Project Short Description

The relationship between speech rhythmicity and neural oscillations is an important component of speech perception, and especially of comprehension. However, even though the presence of the same rhythm has been described in non-human primates, and neural oscillations are a basic property of animals' brains, we still do not know how the brain of animals is processing rhythmic information. Therefore, by identifying similarities and differences in rhythm, as well as its connection with brain oscillations in animal species, we hope to uncover the common rules that govern the rhythmic production and processing of vocal signals in animals. These results will help us understand how speech fits or detached itself from these basic rules, giving us new insight into the evolution of language complex hierarchical structure and a better understanding of brains' perception mechanisms of vocal signals.

5. Lab Work Description

The scientific part of the residency will be supervised by researcher Théophile Piette, who is currently doing his PhD at the NCCR and whose thesis is entitled *Animal brains can follow the beat: a cross-species eeg project on the link between brain oscillations and vocalizations rhythm*.

This PHD is done in the speech and language group, led by Anne-Lise Giraud at Campus Biotech in Geneva. This lab studies the neural bases of language and vocal communication in animals using experimental neurophysiology (PET, fMRI, EEG, MEG, SEEG, ECoG, single spike recordings), computational neuroscience (artificial neural networks, neural signal decoding, dynamical systems modeling), and neurointervention (transcranial electrical stimulation, neurofeedback). Their goal is to uncover the key information processing mechanisms of speech, language as well as animal communication, and use this knowledge to propose targeted treatments in language disorders and better understand the of brains' perception mechanisms of vocal and rhythmic signals.

6. Project Experiments and Methodology

As a first project, we decided to fill the gap in animal vocal rhythm, by performing an extended cross-species study on vocal rhythm in animals. To determine what factor(s) may have contributed to the emergence of speech syllabic rhythm, we collected data on vocalization rhythms for 98 species, including 58 species of birds, 28 species of mammals, 4 amphibians, 4 insects, 1 fish and 1 reptile. We use phylogenetic regression to assess whether weight (as a proxy of breathing/heart rate), brain size or environmental constraints explain the variation in animal vocalization rhythms while controlling for phylogenetic relationships.

If, as we believe it (and as our preliminary results seem to confirm), the rhythm of speech is indeed widespread in animal vocal productions, then it is becoming highly possible that the mechanisms underlying vocal sequences processing in animals shared similarities with the one used for language

processing. To test this hypothesis, we will perform non-invasive EEG recordings on baboons and dogs, while listening to vocalizations of their conspecific, rhythmic noise and language, to investigate the direct link between vocal rhythm and brain oscillations in animals.

With these results, we hope to gain new insights into the evolution of our language, by identifying conserved mechanisms between humans and animals vocal decoding.

The project work locations are:

- Campus Biotech, Geneva, Switzerland,
- Institut de l'audition, Paris, France,
- Station de Primatologie, Marseille, France.

7. Fees and support

The residency includes

- 3 months accommodation in a private room as well as a working space and access to common areas shared with other residents.
(to be scheduled between October 1st 2024 and February 28th 2025)
- CHF 1400.- /month as *per diem*
- Artistic support provided by EOFA
- Scientific support provided by NCCR
- Platform access provided by FCBG

8. Application requirements

Requirements for applicants

Candidates must respond to the following criteria:

- The open call is addressed to all professional artists coming from following artistic fields: performing arts, visual arts and applied arts (fine arts, music, literature, comics, cinema, dance, theatre, design).
- The candidate must be in possession of a wide range of creations, publications and performances at a professional level;
- Not be currently registered in a basic artistic training course;
- Be over 28 at the time of application;
- Speak French or English;
- Accept and agree to pay costs related to their travel and possible artistic production.

Application content

Document 1: Application Questionnaire fully completed with Adobe Acrobat.

Document 2: Application File in PDF format, maximum 15 pages (FR or ENG) including:

- A cover letter
- Description of the project to be developed in Geneva
- Portfolio of recent work
- Recent CV

9. Selection process

A jury will select the Grant beneficiaries. Candidates will be informed of the jury's decision by the end of September 2024. It is not possible to appeal the jury's decision.

10. Requirements

Allocation of the grant and residency are dependent on the obtainment by the candidate of a residence permit for Switzerland and proof of insurance covering medical assistance and accidents in Swiss territory during the period of stay in Geneva.

11. Deadline and document format

The completed questionnaire, fully completed with Adobe Acrobat ([click here](#)), and your application file must be sent separately in the same email (residence@eofa.ch) in PDF format before the 15th of September 2024, at midnight, local time (UTC+2).

Applications exceeding the page limit or incomplete will not be presented to the jury.

For more information:

<https://evolvinglanguage.ch>

<https://www.eofa.ch>

Contact: residence@eofa.ch