

# **Call for proposals: Research visits from Switzerland to UK**

Opening date: 1.2.2022

Closing date: 8.4.2022

## 1 Introduction

The Swiss National Science Foundation (SNSF), in co-operation with UK Research and Innovation (UKRI), is furthering its support of joint Swiss-UK researchers. In the context of this co-operation, the SNSF has agreed to launch a call for proposals to support research visits from Switzerland to the UK in a number of research fields. This call is based on the Scientific Exchanges funding scheme and, where not specified otherwise in this document, follows the [Scientific Exchanges regulations](#). This implies according to art. 1, para. 5, that no grants may be applied for insofar as the activities comprising the scientific exchanges are related to a research project financed under another SNSF funding scheme.

## 2 Application process and criteria

- 1) The call for proposals is open from 1.2.2022 to 8.4.2022 (17.00 Swiss local time).
- 2) All submitted proposals must follow the Scientific Exchanges regulations, except in all cases where different regulations are specified in this document.
- 3) The proposed research visits must be by researchers employed in Switzerland visiting a UK partner to conduct a research co-operation.
- 4) Proposals must address a research question in one of the following four areas (see the non-exhaustive guiding descriptions in the annex):
  - a. Synthetic Biology
  - b. Languages
  - c. Materials
  - d. Life and Physical Sciences Interface
- 5) The proposed research visits can be up to 12 months in length. It is possible to split visits, as long as the overall visit (from beginning to end) is completed within 18 months.
- 6) The proposed research visits can start at the earliest four months, at the latest 18 months, after the closing date of the call.
- 7) The budget for a proposal includes travel costs for one return trip of up to CHF500, and a monthly flat rate for living expenses (including accommodation and subsistence costs as well as local transportation) of up to CHF3'000. Due to the possible maximum length of 12 months, the maximum budget for a research visit within this call is extended accordingly, to CHF36'500. Costs resulting from childcare duties (as defined in the [Scientific Exchanges guidelines](#)) can be requested in addition and do not count towards this maximum.
- 8) The proposals submitted to the call will be evaluated and applicants will be informed of the funding decision within three months of the closing date of the call.
- 9) For organisational and statistical purposes, the SNSF has the right to exchange the names and institutions of applicants and hosts with UKRI.

## Contact information

If you have any questions concerning the call for proposals, please contact:

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## Annex: Thematic Areas

Four strategic areas for collaboration have been identified by UKRI and SNSF for UK and Switzerland collaboration. Below are suggestions of sub-topics within the four main themes for the remit of proposals submitted to the call. This is intended to be a guide and does not exclude other topics within these areas. Cross-cutting themes that are integrated into the four areas, such as artificial intelligence or big data are also eligible.

- i. **Synthetic biology:** is the design and construction of novel biologically based parts, devices and systems, as well as the redesign of existing natural biological systems for the transformation of many sectors including agriculture and food systems, biomedicine, biomanufacturing and chemistry. It has the potential to fuel major advances in fundamental bioscience research as well as to address major global grand challenges including clean growth, decarbonisation and environmental protection, health and wellbeing, energy, and food security.

### Key areas of research could include:

- Bio-inspired design: aiming to build fundamental potential of biology and exploit the properties of nature for biotechnological solutions.
  - Novel materials: aiming to develop new materials, products and production processes. Synthetic biology will be used to create more sustainable production processes or alternative production solutions to develop new, non-natural, integrated and smart/functional materials.
  - Bioengineered cells and systems: aiming to develop novel approaches and technologies that allow 'de novo' construction or modification of existing cell and biological systems efficiently and effectively. Synthetic biology can be applied in precision genome engineering technologies; meet challenges of different biological scales (e.g., synthetic organelles, functionally modified cells and hybrid networks); and further develop and control minimal/protocells, synthetic microbial communities and artificial life.
- ii. **Languages:** a multidisciplinary area which explores linguistic communication in all its manifestations, encompassing fields within the humanities (e.g., languages, literatures, cultures, linguistics), as well as AI technology/computer science, psychology, social sciences and the natural sciences.

### Key areas of research could include:

- Multilingualism e.g., language acquisition, multilingual creativity, minoritised languages and literatures, literatures and cultures in multilingual contexts, multilingualism and identity, language policy, dialectology and language contact.

- Neurodiversity and the social cognition of language e.g., bi- and multilingualism and language cognition across the lifespan.
- Interface between the biological and the social dimensions of language.

iii. **Materials:** a multidisciplinary field that encompasses biomedical materials, composites, functional ceramics and inorganic materials, magnetic materials, metals, photonic materials, polymer materials and superconducting materials.

Key areas of research could include:

- Exploring the synthesis, characterisation, understanding, modelling and processing of materials.
- Understanding materials properties and behaviours, hybrid materials and the development of novel materials and devices.

Key areas for application could include:

- Materials can have a wide variety of applications in sectors such as, but not limited to, aerospace, automotive, computing, construction, digital fabrication, electronics, energy, healthcare, manufacturing, quantum technology, rail and robotics.

iv. **Life and Physical Sciences interface:** Modern medicine and biology present many challenges that require input from mathematicians, physicists, chemists and engineers, leading to several fields which provide an opportunity at the interface between life science and physical sciences.

Using experimental, theoretical and/or computational physical sciences to unlock understanding of living systems in biological or biomedical contexts. Research relevant to human, animal, plant or microbial systems and projects working within or across lengthy scales, from molecules to complex organisms is eligible. Proposals could demonstrate integration of research questions, approaches and outcomes across that neither the physical sciences nor life sciences alone can address.

Key research areas could include:

- Chemical biology and biological chemistry
- Interface between biology, nanotechnology and computer science (could include bioinformatics and neuroinformatics)

- In the imaging space: optical microscopy involving technology and software development and the application to biological questions; the bridging with medical imaging, such as MRI and PET scanning.
- Design of computational and synthetic tools
- Medical devices
- Targeted therapeutics
- Regenerative medicine
- Multi-modal and multi-scale biology
- Mechanobiology
- Advanced in vitro technologies