

APPLICATION FOR ISOTOPE GEOSCIENCE SUPPORT

Guidance notes for applicants December 2018

Geochronology & Tracers Facility (NIGL), Stable Isotope Facility (NIGL)
Argon Isotope Facility (AIF), Isotope Community Support Facility (ICSF)



Please note:

Finalised applications should be submitted by email to the NIGFSC Secretary Dr Diana Sahy (dihy@bgs.ac.uk) by Friday 26 October 2018. Completed drafts should be made available to facility collaborators at least two weeks in advance of this deadline.

Resubmissions must be accompanied by a covering letter.

The Application form must be completed and submitted by the Principal Investigator, NOT by a student.

Allowed fonts sizes and margin widths for the Project Description have changed. See notes for Section 3.11.

These notes are provided to applicants who are eligible to apply as Principal Investigators (PI) to the NERC Isotope Geosciences Facilities Steering Committee (NIGFSC) for NERC funded isotope analysis. See www.nerc.ac.uk/funding/available/researchgrants/eligibility.asp to check eligibility.

The NIGFSC meets twice a year to oversee and review applications for the usage of the Geochronology & Tracers Facility and Stable Isotope Facility (nodes of the NERC Isotope Geosciences Laboratory, NIGL); Scottish Universities Environmental Research Centre (SUERC) Argon Isotope Facility; and SUERC Isotope Community Support Facility;

All facilities have analytical equipment and staff expertise for undertaking isotope research and training in a wide variety of environmental studies. In addition, all sites operate an open-door policy which encourages applicants to visit the relevant laboratory in order to discuss their project with NIGF scientists.

Grant support is essentially directed to two types of activity: research and training. There are no charges for this support. Facility support of a project on the recommendation of the NIGFSC is regarded as a 'grant in kind' from NERC.

Please note:

- a) Collaboration between NIGF scientists and applicants is strongly encouraged.
- b) Applicants should discuss their project's isotope requirements with staff of the relevant facility at the earliest possible opportunity and must provide a completed draft of the application to facility collaborators at least two weeks before the final submission deadline. As well as discussing the needs and feasibility of the project, the applicant is likely to benefit from the facility's input to the proposal.
- c) Applications relating to studentship projects **must** be submitted by the supervisor as PI, **not by the student**. It is extremely unlikely that applications which do not have major input from the supervisor will be successful.
- d) Completed applications should be submitted by email to the NIGFSC Secretary (dihy@bgs.ac.uk). You must also send a three page project description in Microsoft Word or compatible format, or as a PDF file (see Section 3.11). Paper submissions are not acceptable.
- e) Applications must be properly authorised by the Principal Investigator, Head of Department, and PhD student (if applicable)
- f) Applications which are incomplete, or are received after the submission deadline, will be held over to the next meeting.
- g) NIGFSC meetings take place six weeks after the submission deadline. Outcome letters will be released four to six weeks after the NIGFSC meeting.

Guidance Notes on the NIGFSC Application Form

Technical aspects of the Application Form

Many fields on the form are limited in size to the visible area. **This is deliberate.** The fields are designed to accept an appropriate amount of technical text. Do not try to change the font size to 6 point just to squeeze a few more words into the box. As an example, the input fields in Sections 3.2 – 3.4 have enough room for up to 210 words of unformatted text, or at least 100 words with bulleted lists, paragraph breaks etc.

The Application Form should be completed in Adobe Reader or Adobe Acrobat v9 or later. Mac users **should not** use Preview, because this is not fully compatible with the latest versions of Acrobat forms. If necessary an updated version of the free Adobe Reader can be obtained at <http://www.adobe.com/products/reader>. Extended text fields can be completed by cutting and pasting from a word processor. Note that superscripts and subscripts can be inserted by right-clicking on the relevant characters, and accessing the *Text Size* menu. Acrobat form fields can only contain a single font, so special characters (e.g. Greek symbols) must be inserted using extended character sets, rather than by using Symbol font. For convenience, a range of Greek characters is included in the footer of each page. These can be inserted in your text by cutting and pasting.

The form should be submitted by email to the NIGFSC Secretary (dihy@bgs.ac.uk) along with the Project Description (Section 3.11). It is advisable to save the Application Form with an appropriate name (e.g. YourName NIGFSC May 2018) before submitting the form.

Section 1 (Nature of proposal)

See also Supplementary Information Note 2 below.

- a) In awarding a ‘grant in kind’, the NIGFSC must ensure that the resources of the isotope facilities are put to the best possible scientific use. In order to achieve this, it is normally assumed that facility staff will be involved in a “**Collaborative**” role with the research project – i.e. the scientific expertise of facility staff is used in the design, implementation, interpretation, and publication of the isotope work.
- b) If there is no requirement for scientific collaboration, i.e. the application is for a technical analytical service only, then mark “**Analysis Only**”. The rationale for seeking an analytical only service should be explained in the Project Description (Section 3.11). The NIGFSC will need to be assured that the non-facility researchers have the relevant expertise and will make best use of the isotope data.
- c) The option to select “**Pilot Study**” is no longer available, because the concept and scale of a pilot study was poorly understood. It is still possible to submit an application for a feasibility study of limited time and scope, which is intended to lead to a full application to the NIGFSC. If this is the case, you should state this in the Project Description. The Committee may also recommend that a Pilot study should be undertaken in cases where an application would benefit from a small amount of preliminary data (requiring a resource of < £10k).
- d) Please be aware that resubmitted applications must be substantially modified from the original proposal and must contain a covering letter highlighting the amendments made. The NIGFSC reserves the right to reject without formal consideration any resubmitted application not modified satisfactorily.

Section 2 (The Research Project)

This section relates to the overall research project (not just the isotope component).

- 2.3 Briefly describe the scientific objectives and methodologies employed in the overall project. Also list agreed co-operation with other organisations/scientists. If the isotope work forms part of a student's project please indicate its significance, e.g. is it integral to the research topic or only providing useful additional information?
- 2.4 If funding for the overall project is supported by other awards then state the name of the awarding body, PI, grading and reference number.

Section 3 (The Isotope Project)

- 3.1 List all personnel associated with the project including PI, co-investigators, students, facility staff etc., so that the role of each person in the collaboration is clear. Identify which personnel will be involved in the sample analysis, and whether they will require training.
 - a) The isotope facilities welcome visiting scientists who wish to undertake their own isotope analyses, with training if required. If the project does not involve a student the isotope work will be undertaken by facility staff.
 - b) For student projects in which the requirement for isotope work is small, analyses can be undertaken by facility staff. However, research students are encouraged to visit the Facilities to learn about preparation and mass spectrometry, by arrangement. This usually includes hands-on training in the relevant laboratory.
 - c) Where a student's project involves a reasonable component of isotope work, the student will normally be expected to spend time at the facility being trained in isotope techniques whilst analysing their project samples. NIGFSC approval of a project does not cover travel and subsistence expenses incurred whilst working at the Facility.
 - d) Please consult with your Facility collaborators to ensure that they are correctly listed here. In order to identify conflicts of interest during NIGFSC meetings, it is important to identify Facility staff who are closely involved with the project (for example, as PhD co-supervisor); they should be identified as co-investigators. For all other cases, use the Facility Staff category.
- 3.2 If the isotope work has to be completed by a certain time (e.g. results needed for a student thesis) please state.
- 3.3 – 3.5 Summarise the objectives of the isotope project. Clearly and succinctly state the working hypotheses or models which the project aims to test. Describe the manner in which the isotope results are expected to contribute to achieving the objectives.
- 3.6 A preparatory report must be submitted to the facility before it commences the analytical programme. This should provide sufficient background information to enable selection of samples, provide the characteristics of the samples necessary for the analytical procedures and enable interpretation of the results in the context of the problem.
- 3.7 For student projects section 3.6 must to be completed by the student. Applications without the comments of the student will be classed as incomplete and returned to the PI. Please also note the following points:
 - a) **PhD Studentships.** After a PhD studentship has been awarded, any facility support required for an isotope component of the research project must be approved by the NIGFSC (including CASE studentships). It is therefore important that if a PI is formulating a studentship which will be dependent on isotope work, they have early and detailed discussions with the relevant facility. If the isotope work is to be a major component of the

studentship, with the student likely to spend significant time at the facility, then it may be appropriate to have a facility member of staff as a co-supervisor.

- b) **Students in their final year.** Since there is inevitably a delay between the submission of an application and the completion of isotope analyses, and with the need for the student to write up, the NIGFSC discourages applications for student projects in the final year of their PhD research. This however does not preclude an application for a small amount of isotope work addressing a specific question.
- c) **MRes and MSc Studentships.** Work in support of MRes and MSc projects can be considered under 'small studies' (see Supplementary Information Note 2 below). No allowances are made for Masters research by the NIGFSC; proposals involving Masters students are considered with the non-student projects.

3.8 Summarise the type of analysis (e.g. $\delta^{18}\text{O}$), the type of sample material (e.g. pure calcite), and number of analyses required. The application is regarded as seeking approval for these analyses in principle. After the results of initial analyses are available, the facility has the discretion to decide that fewer (or a few more) analyses are justified. If requesting duplicate or triplicate analyses, this must be clearly stated here, and justified in Section 3.11.

3.9 – 3.10 Indicate where the project maps across the listed Science Themes and Research Areas. Enter decimal fractions!

3.11 The **Project Description** should include two pages of text, and a page of diagrams and references. It should be completed in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size), with margins of at least 2cm. References should also be at least 11 point font. Text in Figures must be clearly legible. The Project Description should include background, methodology, programme/plan of research, justification for the number of analyses requested and evidence that:

- a) the main research project has high scientific importance;
- b) the isotope data will make a vital contribution to the project's aims;
- c) sample material appropriate for isotope analysis will be available;
- d) any additional information/data required to make a proper interpretation of the isotope data will be available;
- e) if a large amount of isotope work is proposed, the schedule of work has stages at which the need for further isotope work can be assessed.

Section 4 (Research Experience of the Principal Investigator)

- 4.1 The PI should describe recent relevant research experience and list of relevant recent publications.
- 4.2 List all applications the principal investigator has had approved by the NIGFSC during the last five years.

Section 5 (Authorisation)

- a) All applications **must** be authorised by the principal investigator, their Head of Department, and any student involved.
- b) Signatures are no longer required, but in case of disputes, you should ensure that you have documentation (e.g. an email trail) to show that Head of Department approval was given.

Further information

For further information please contact Dr Diana Sahy (dihy@bgs.ac.uk).

Conditions of access to the isotope facility (Data Protocol)

Like all NERC facilities, NERC Isotope Geoscience Facilities are required to justify their existence in terms of their scientific contribution. It therefore requires all successful applicants of NIGF support to agree to the following terms to ensure NERC support is acknowledged.

- 1) Within six months of completion of the analytical programme a *final report*, summarising the results and providing a brief interpretation within the context of the original aims of the application, must be submitted to the NIGFSC via the facility.
- 2) The support provided through NERC should **at least** be acknowledged in all relevant publications. In the case that NIGF staff have made a scientific contribution to the work co-authorship would be more appropriate.
- 3) Results arising from a NERC isotope allocation are not the sole property of the applicant, but are jointly owned by NERC and the applicant. NIG Facilities will not publish or otherwise use results they do not wholly own during the first 18 months after the final results have been delivered, except with the agreement of the user. If, after the moratorium period, the user has not made reasonable efforts to publish data provided by the facility, the ownership of the data may be claimed in total by NERC and the NIGFSC may authorise the facility to make its own use of the data.
- 4) Publication is the prime indicator of science supported by the NIG Facilities and therefore an important means by which the value of the relevant facility to the scientific community is judged. Investigators in receipt of a NERC isotope allocation are required to supply bibliographic references and/or copies of any publications (including PhD theses and non refereed publications), which discuss or describe NERC isotope results for inclusion in the NIG Facilities databases. A reminder asking for details of recent publications using NERC-funded isotope data may be sent.

The fulfilment of the above conditions will be considered by the NIGFSC in the allocation of future NERC support.

Supplementary Information Note 1: Grading of applications

Applications are graded using the same criteria as other NERC peer review committees (on a scale from 0 to 10). Approval will normally be considered only for proposals graded 7 or above (subject to the Facility being able to undertake the work). In recognition of the importance NERC attaches to training, a lower grade of 6 may be acceptable for applications relating to studentships.

A PI whose application has been rejected may be invited to resubmit if the Committee considers that insufficient information has been supplied in the application for a grade to be given and if there is sufficient potential in the proposal for it to be significantly strengthened when reformulated. Such applications are graded R* (invited resubmission).

Supplementary Information Note 2: Small studies

Heads of Isotope Facilities have the discretion to allow the undertaking of small studies without prior approval from the NIGFSC. Each small study should amount to not more than five days of work, and the sum of all these studies should not be more than 15% of the total facility time. Results of small studies will be reported to the NIGFSC in the facility's annual report to the NIGFSC, and are usually a prelude to a full NIGFSC application.