**Request for application to the Elizabeth Sinclair Irvine Bequest**

**and Centenary Agroforestry 89 Fund**

**Objective:** Partecipation to the EGU General Assembly 2017 with the poster: Evidence for substantial forestry canopy processing of nitrogen deposition using isotopic tracer experiments in low deposition conditions

The primary objective of my PhD is to better understand the fate of atmospheric nitrogen (N) deposition (Ndep) on forest canopies. Analysis of 5.5 years of data from site scale hydrochemical sampling and field measurement at Griffin Forest (Perthshire, UK), our well-characterised study site typical of upland UK Sitka spruce plantation, suggests strong transformation and uptake of Ndep in the forest canopy from comparison of rainfall (RF) with throughfall (TF) and stemflow (SF) measured below the canopy. An additional experiment that uses 15N stable isotope has been implemented to confirm the mentioned results at site scale by applying a 15N enriched solution on 3 target trees canopies in situ. This double seasonal application – one application was made in August 2016 and a second one in February 2017 – has increased the natural deposition without shifting from low to high deposition numbers.

In facts, whilst previous studies have reported evidence of biological nitrification at canopy level only in high deposition forested sites, this study aims to show a similar process in low Ndep conifer plantations.

The poster proposal has been accepted by the EGU committee and scheduled in the session BG1.10 - Nitrogen-transformation processes in terrestrial and aquatic ecosystems: advances in pathways-tracing, quantification and process-based modelling, on Friday, 28th of April 2017.

**Expected costs**

Note: some price are in euro if they have been booked or estimated (in local currency) but not paid yet.

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| --- | --- | --- |
| **Invoice** | **Price in £** | **Price in €** |
| 1-way flight Edinburgh – Bologna | 44.87 |  |
| Venice – Wien (train) | 27.62 | 32.00 |
| Accomodation (Airbnb) | 416.00 |  |
| Wien - Edinburgh | 176.95 |  |
| Wien public transportation | 28.22 | 32.70 |
| **Total expenditure (travel+accommodation)** | **693.66** |  |

**Contribution of the work to be funded to the research project**

The participation at the EGU conference allows to present the project to a wide international audience. It comes at a stage in which the final results of the overall project are not available yet, but it allows to share the intermediate findings and get feedback from researchers that may help in the finalisation of the project, as well as giving an opportunity for proficuous networking on the area of forest interaction with Ndep, N cycle in forest, isotope-based studies on forest interaction with atmosphere and soil.

**Supervisors:**

1st supervisor: Prof. Kate Heal – University of Edinburgh

Co-supervisors: Prof. David Reay – University of Edinburgh

Dr. Nadeem Shah – Forest Research

*Questions for Kate: should I explicitly state that I have not received further funding on this (see notes below)? Or should I state all the extra fundings I got for the project, like those for the 15N analysis at LSMSF?*

The maximum proposal length is 2 pages of A4 for bursary applications and 1 page of A4 for other types of funding. Applications for retrospective funding will not be considered.

Preference may be given to applicants who have little or no sources of funding as supplement beyond the standard grant, or who are self-funded. Previous successful award winners are eligible to re-apply (but should understand that, all other issues being equal, priority will be given to   
applicants who have not received funding before from these sources of support).

Applications should be emailed to the GeoSciences PGR team [pgrsupport@geos.ed.ac.uk](https://www.staffmail.ed.ac.uk/imp/compose.php?to=pgrsupport%40geos.ed.ac.uk) by 12 noon on the deadline date of Friday 31 March 2017 .