

SERENE: Solutions from Emerging Researcher Exchanges: The role of the Natural Environment

A proposal to SFC's Saltire Emerging Researchers Exchange scheme submitted by SAGES on behalf of: Universities of Glasgow (Host), Aberdeen, Abertay Dundee, Dundee, Edinburgh, Highlands & Islands (through SAMS), St. Andrews, Stirling and West of Scotland, the British Geological Survey and the Scottish Universities Environmental Research Centre (SUERC).

Key aims

The key aim of SERENE is to offer flexible funding for Scotland-based geo-environmental scientists (the applicant) to engage, interact and ultimately collaborate with European scientists (the coapplicant), thereby *increasing Scotland's knowledge base and international status as a leader in natural solutions to climate-related challenges*. The scheme is modelled around a pre-existing international exchange scheme between SAGES and the German geosciences powerhouse "Geoverbund" (see Letter of Support) and will be extended to include key French universities/research institutes, and the 26+ European university members of the UArctic network.

Funds for contributions towards travel, subsistence and research expenses can be requested for one-off, two-way visits to explore opportunities *for building research networks and collaborations to secure new European research funding*. SERENE is intended to stimulate new collaborations between emerging geo-environmental scientists based in Scotland and Europe. Europe-based coapplicants must apply with a Scotland-based host applicant (a geo-environmental researcher based at any SAGES partner). SERENE will support a hierarchy of direct and indirect beneficiaries: the participants themselves (accelerated career development); their host institutions (collaborations, innovation, stimulating new fields); Scottish academia/non-academic groups & institutions.

Objectives of the programme and intended outcomes.

The primary objective will be to *increase the volume of research income to Scotland via European funding mechanisms and thereby the size of our knowledge base*. Success is measured through the metrics of research workshops, training events achieved and proposals submitted. The secondary objective is to *improve the research opportunities and general research environment* for emerging geo-environmental science researchers based in Scotland or looking to Scotland as an attractive place to relocate from Europe.

Proposed European partner universities

The scheme will be based around the SAGES MOU with the German geoscience network Geoverbund ABC/J, comprising Universities of Aachen, Bonn, Cologne and the federal government research and technology centre at Jülich, home to two and a half thousand scientists with over 600 visitors from 59 countries.

http://www.geoverbundabcj.de/geoverbund/EN/Home/home_node.html

Established connections in France will disseminate exchange opportunities around their networks and we will work with the Scottish Government Paris Hub following their recent work on FrancoScottish links in Research, Innovation and Higher Education.

<https://www.gov.scot/publications/franco-scottish-links-research-innovation-higher-education/>

We have an agreement with the UArctic network to provide access to their network and have opened discussions around co-funding. <https://www.uarctic.org/about-uarctic/>

Common areas of agreed mutual access include teaching and research space, laboratory and analytical facilities, conference and web-conference technologies, in addition to at-cost access to larger capital research infra-structure such as large analytical facilities, vessels and aircraft (e.g., marine robotics and unmanned aerial vehicles).

Focus research area

SERENE is challenge-led and will focus on: **Climate Change, NetZero and a Just Transition: the role of the Natural Environment.**

Scheme Basis

SERENE will operate two streams: Directed and Open. The Directed partners for the scheme will be the German geoscience network Geoverbund ABC/J, the 26+ pan-European UArctic members (match funding tbc), and pre-established connections in France. The Open stream will be truly open. The two streams are differentiated by funding model:

1) Directed Stream:

Applicants (Scotland-based) and co-applicants (Europe-based) are eligible to receive funding. Applicants may receive 100% funding. For co-applicants we have a target of 25% match-funding from their host institution, either financially or in-kind. [This target has been already achieved with Geoverbund and discussions are open with UArctic].

2) Open Stream:

Scotland-based applicants may apply with co-applicants from any EU, EEA and EFTA country with a pre-requisite of 50% match funding from the co-applicant's host institution.

Over the last six years SAGES has run a successful competitive application exchange programme, with 52 individual exchanges to 21 countries in Europe, resulting in new funding to Scotland exceeding €10M (detailed in SAGES annual ROSI reports). SERENE will use that model.

Assessment criteria for applicants and advertising

The programme will be advertised immediately across all partner networks (SAGES, Geoverbund ABC/J, UArctic and France). Adopting our existing model, applications will be double blind reviewed, using established protocols that ensure academic rigor and compliance with EDI principles, and will be managed through a SAGES web-portal. Scheme wording and assessment criteria have already been established, and funding will be open to PGRs and ECRs (defined as researchers within 5 years of PhD completion).

Match funding from European partners

Initial co-funding of €10k from Geoverbund has been secured (as 25% contribution this scales to £26k match from SERENE). We are in dialogue with UArctic about a similar arrangement (tbc). There is no equivalent research pool network in France. SAGES has funded 15 exchange visits to key University environmental groups in France who will be used as a basis for developing connections, and SERENE will connect with SG's Franco-Scottish initiatives.

For industrial/commercial/SME co-applicants there is a 50% co-funding requirement of the coapplicant. For University-based co-applicants on the Directed Stream co-funding of 25% will be encouraged, but not a pre-requisite. For University-based co-applicants on the Open Stream cofunding of 50% is a pre-requisite. No co-funding is required for any Scotland-based applicants.

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A brief plan outlining key stages and dates of the programme.

Opening date: 1st September 2021

Closing date: 15th October 2021

Outcomes notified: 3rd November 2021

Latest project start date: 1st February 2022

Latest project end date: 31st July 2022

SERENE consortium and its suitability for delivering the proposed programme

The three 'big players' in geo-environmental sciences in Europe are UK, Germany and France. Additionally, Scotland and Scottish Government have growing research and geopolitical interests in the "New North" <https://www.gov.scot/publications/arctic-connections-scotlands-arctic-policyframework/pages/2/> where the Scandinavian countries of Europe are at the leading edge. SERENE specifically targets these high-interest, high-reward aspects of European geoscientific collaboration. SAGES itself is a multi-disciplinary alliance of 11 Scottish Universities and Research Institutes at the forefront of earth and environmental science research and education. The REF2014 combined research power in Earth and Environmental Sciences of SAGES exceeded by 60% that of the Golden Triangle (Oxbridge + London). SAGES has an established administrative function at Glasgow University that has successfully managed competitively run exchange schemes for the last six years. Awarding a total of 52 individual exchanges to 21 countries in Europe, valued at £106k in total. SAGES has a thriving Graduate School with >150 full members. Since 2017 the Graduate School has co-funded 10 studentships across the broad subject areas of carbon, climate, landscape, and society in step with the principal SAGES themes. In addition, SAGES has an active Innovation programme aligning PGR's with short-term projects designed to help inform Scottish Government thinking in key policy areas (e.g. Future Cities). A number of ECRs and students have already benefited from links with Geoverbund with collaboration on projects and through attendance of summer schools (e.g., Super Computing summer schools hosted by Bonn). Finally, the Graduate School has recently provided support for 42 students from Scottish Universities in helping mitigate the impact of Covid-19 on their projects.

The Scottish Government's Paris Hub is focusing this year on promoting Scotland as a worldleading nation in the fight against climate change and on renewable energy and has just generated a database of relevant R&I links between France and Scotland.

<https://www.gov.scot/publications/franco-scottish-links-research-innovation-higher-education/>

SERENE will combine this database with SAGES pre-existing exchange contacts in France to create a directory of contact points for potential applicants to SERENE, offering a brokering service for initial discussions with potential co-applicants.

The "New North", despite its name, has centuries-old pedigree within Scotland's research and cultural landscapes. The relatively new Nordic and Arctic Unit in Scottish Government has been supported by SAGES in setting up a pan-Scotland Arctic Network, with an application for further support from the RSE Research Networks scheme pending (start date for ScAN-ICE is November 2021). UArctic is *the* international research, innovation and education network when it comes to the Arctic and high North <https://www.uarctic.org/>; seven Scottish HEIs are members of UArctic.

UARctic is a formal supporter of ScAN-ICE, and SERENE; opening these networks and their contacts to potential SERENE applicants, and in particular Scandinavian partners, whose strength in the climate-related geoscience of Arctic regions is unsurpassed.

Contingency plans if physical travel is not possible.

Engaging in a Connected Europe:

This proposal aims to address the new shape of the post-Covid-19 world by encouraging further use of innovative technologies. These include use of the now ubiquitous video-conferencing software and by fostering discussions, workshops, and conferencing over the internet. In this rapidly developing area SERENE will use SAGES training events (see section on SERENE consortium) and PGR development workshops to enable, foster and strengthen collaborative working for PGRs and ECRs across the SERENE cohort. SAGES already utilises videoconferencing for workshops (e.g., SAGES Annual Science meeting, 2020 was wholly online) and for discussions with colleagues in Geoverbund. SERENE further extends these arrangements including use of proven Scottish University standard teaching software, Webex, for hosting developmental workshops and training. SERENE will provide a 'covid-secure' working space in Edinburgh at ECCI, Edinburgh Centre for Carbon Innovation (Edinburgh Airport has the best direct European connectivity in Scotland). The meeting rooms at ECCI are fully enabled with Smart Boards, video cameras and web-hosting technologies that can be utilised for individuals and small groups to convene pan-European networking or proposal development working groups.

Proposed exchange programme summary

[1] Funding, Duration and Start Date:

Exchange awards are available for up to 6 months. Activities can start any time after the award date, and no later than 1st February 2022. SERENE defines the start of the project as being any activity undertaken to progress the project, which includes booking flights or planning a schedule of activities to be undertaken in the initial stages; it is not necessarily the date when exchange visits must have commenced. The funding available is dependent upon the length of the visit. Applicants may request up to £10k for one-off travel lasting up to 6 months (including a maximum of £2.5k for research expenses). Travel can be conducted by all project participants which includes the applicant, the co-applicant and other members of their teams. No salary costs can be covered.

[2] Assessment Criteria and Review Process:

Proposed exchanges must demonstrate high relevance to "Climate Change, NetZero and a Just Transition: the role of the Natural Environment".

The primary considerations are listed below. Successful applications should be strong in all respects:

- research background of the applicant and co-applicant;
- mutual benefit of the collaboration;
- academic strength of the proposal;
- potential contribution to the Scottish science base;
- potential for long-term collaboration;
- clearly identified immediate funding opportunities

All applications to SERENE will be reviewed and assessed by members of SAGES RICOM (Research and Innovation Committee) who have the most appropriate scientific expertise using the criteria detailed above. Applicants will be notified of the outcome of their application by email three weeks after the closing date.

[3] Application Process:

Guidance notes including eligibility are available on the SAGES web site ([hyperlink](#)). On-line web form for applications is available here ([hyperlink](#)):

- Summary (200 words max) [text box submission]
- Eligibility Criteria [explanatory words restated]
- Contact Details [text box submission]
- Lead Applicant Career Summary [attachment, 2-page CV pdf, 11point arial, 2cm margins]
- Co-applicant Overseas Career Summary [attachment 2-page CV pdf, any format]
- Research Proposal [text box submission]
- Financial Details [text box submission]
- Head of Departmental Support and Head of Department Overseas Support [text box submission, and/or attached LoS]

Detailed programme income (including all sources) and expenditure statement, providing detail of further justified costs that will be sought for administrative and marketing costs.

Note: Total request to SFC Saltire Emerging Researcher Exchange scheme = **£82k**

Cash and in-kind income both noted.

Expenditure shown is cash only

All costs converted to GBP

Income to SERENE (all sources):

- £3,458 SAGES Admin support (C. Thomson, 3.7 hours per week, for 12 months). IN KIND
- £6,131 UoG Institutional overhead on Administrative Support (C. Thomson) for 7.4 hours per week for 12 months. IN KIND
- £5k SAGES contribution to cohort building event. CASH
- €10k (£8.6k) for Geoverbund co-applicants (to be distributed by Geoverbund, not by SERENE)
- **£82k sought from SFC funding.** CASH

Total Income, including in-kind, and Geoverbund: £105.19k

Total Income for SERENE to account for direct expenditure: £87k

Expenditure:

- £3,458 Administrative support (C. Thomson, 3.7 hours per week for 12 months ex. overhead)
- £5k contribution to cohort building event submitted on behalf of all RIS proposals by ScotCHEM
- Directed Stream: ~70% of cohort (~7 exchanges, £50k)
- Open Stream: ~30% of cohort (~3 exchanges, £20.5k)
- Digital advertising and marketing (inc. web support, ECCI venue hire at-cost): £8k

Total SERENE expenditure: £87k

Details of any planned cohort building or networking activities.

A cohort building event has been submitted on behalf of all RIS-networked proposals by ScotCHEM. SAGES will contribute £5k, via SERENE, toward the cohort building event.

Research Innovation Scotland (RIS) is an overarching umbrella for joint activities conducted by SFC funded consortia (Research Pools, Innovation Centres and Interface) and aligned partners. RIS is a platform for the delivery and signposting of multidisciplinary and cross-sectoral events, workshops and networking activities. Owing to its strong foundation in collaborative working of many consortia and its existing links into our Scottish Universities, we believe it is best placed to deliver

the Saltire Cohort program of events and activities to support, enable networking and showcase the work of the Saltire Emerging Researchers. ScotCHEM as one of the constituting parts of RIS has been nominated to coordinate and deliver the entire cohort program of activities on behalf of RIS and other consortia supporting this proposal. ScotCHEM has developed the following proposal (cf ScotCHEM proposal document section 5) for a program of activities, in consultation with all entities who support it. ScotCHEM is willing to deliver this cohort proposal on behalf of RIS regardless of being successful in securing the principal Saltire Emerging Researcher award. ScotCHEM will work with and coordinate the proposed range of activities with all the consortia delivering the Saltire Emerging Researcher Scheme and will be open to reasonable changes to the range of activities offered to the full Saltire cohort, to ensure inclusion of consortia who have not been involved in this current proposal.

Approval, University of Glasgow:

I, Professor Margaret Lucas, Dean of Research in the College of Science and Engineering, have been delegated the authority to approve this proposal from the Scottish Alliance for Geoscience, Environment and Society (SAGES) to the SFC Saltire Emerging Researcher Scheme.

I strongly recommend funding of this proposal given SAGES existing partnership and experience of delivering the international exchanges scheme with Geoverbund. Expanding on this successful programme by introducing SAGES French partner universities and the 26+ European university members of the UArctic network will offer excellent research and career development opportunities to emerging geo-environmental science researchers. The University of Glasgow's well-established management of competitively run exchange programmes will ensure the success of the Saltire programme and crucially, the establishment of important new connections will accelerate recovery of research activities following disruption caused by the pandemic.



Professor Margaret Lucas
Dean of Research, College of Science and Engineering
University of Glasgow

Date 12 July 2021

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