 

**CENTA Science Opportunity Studentship (CSOS)**

**Application for 2022 Intake**

CENTA is committed to widening the diversity of our PhD student cohorts in order for them to reflect the diversity of our society. In order to address a historical imbalance, it is our ambition to offer up to 3 fully funded studentships to Black, Asian or Minority Ethnic (BAME) Home-award-eligible applicants who meet the academic requirements (at least a 2:1 at UK BSc level or at least a pass at UK MSc level or equivalent, see Q1 and Q2 below).

**Eligibility**

Eligibility for the CENTA Science Opportunity Studentship is limited to students who identify as BAME and who are eligible for a Home studentship award. You must indicate YES to both questions below for your application to be taken forward.

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| **Do you identify as Black, Asian or Minority Ethnic (BAME?)**  | **YES/NO** |
| **Are you eligible for a Home award?** | To be eligible for a full (Home) award candidates must meet the following criteria:• Be a UK National (meeting residency requirements), or• Have settled status, or• Have pre-settled status (meeting residency requirement) or,• Have indefinite leave to remain or enter(For further information please see Annex 1 in the following document: <https://www.ukri.org/wp-content/uploads/2021/03/UKRI-170321-InternationalEligibilityImplementationGuidance.pdf>Please indicate whether these criteria apply to you. **YES/NO** |

**Submission**

This form must be submitted electronically along with your CV to the CENTA Studentship Selection Panel **by the 7th January 2022** to: centa-admin@contacts.bham.ac.uk.

Once CENTA has made a decision on your application, CENTA will contact you with details about supervisors carrying out research in your area of interest, and how to apply to a hosting university.

**References**

To allow us to assess your application, please provide here the names and contact details of two referees, at least one should be an academic. CENTA will contact them, so please inform them about your application.

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| Name | Email address | Institution/Company |
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**Information and Help**

If you would like more detailed information about current research at our different institutions, we’d love to hear from you. Any of the academics and researchers below will be able to answer any queries you may have or will be able to point you in the right direction. An idea of the types of research we do is listed at the end of this form.

**University Partners:**

University of Birmingham: Dr Joshua Larsen (J.Larsen@bham.ac.uk)

Cranfield University: Prof. Steve Hallett (s.hallett@cranfield.ac.uk) & Dr Abdou Khouakhi (A.Khouakhi@cranfield.ac.uk)

University of Leicester: Dr Tiff Barry (tlb2@leicester.ac.uk)

Loughborough University: Prof. Dave Ryves (D.B.Ryves@lboro.ac.uk)

The Open University: Dr Luke Mander (luke.mander@open.ac.uk)

University of Warwick: Prof. Robin Allaby (R.G.Allaby@warwick.ac.uk)

**Research Centre Partners:**

National Centre for Earth Observation (NCEO):

Dr Jeremy Harrison (jh592@leicester.ac.uk)

British Geological Survey (BGS):

Dr Jon Naden (jna@nigl.nerc.ac.uk)

National Centre for Atmospheric Science (NCAS):

Dr Louise Whitehouse (louise.whitehouse@ncas.ac.uk)

UK Centre for Ecology & Hydrology (UKCEH):

Dr Cedric Laize (clai@ceh.ac.uk)

**Your application**

**Personal details**

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| **Forename** |  |
| **Surname** |  |
| **Email address** |  |

**Please answer the following questions.**

**Q1. Bachelors-level degrees awarded and grade/classification**

For 4 year integrated masters (MSci, MGeol etc.) please report your *third* year mark here and the final “M” grade in Q2.

Where a final grade is not yet known, please provide a predicted grade justified from your academic transcript. Please ensure that your academic referee is aware that they should also provide a predicted grade in their reference letter. Please also ensure your referee(s) are aware of the need to provide reference letters.

If you gained your Bachelor’s degree at a non-UK institution, please use guidance on UK equivalence at: <https://www.gov.uk/government/publications/overseas-degree-equivalency-table-and-methodology>.

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| **Start date** | **End date** | **University** | **Subject** | **Qualification awarded****(e.g., BSc)** | **Class/grade awarded****(local and UK equivalent)** |
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**Q2. Masters-Level degrees and grade/classification or equivalent experience**

Where a final grade is not yet known, please provide a predicted grade justified from your academic transcript or indicate whether only a pass/fail is awarded. Please ensure that your academic referee is aware that they should also provide a predicted grade in their reference letter. Please also ensure your referee(s) are aware of the need to provide reference letters.

If you gained your MSc (or are working towards one) at a non-UK institution, please use guidance on UK equivalence at: <https://www.gov.uk/government/publications/overseas-degree-equivalency-table-and-methodology>.

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| **Start date** | **End date** | **University** | **Subject** | **Qualification awarded or predicted****(e.g., MSc, MSci, etc.)** | **Class/grade awarded or predicted****(local and UK equivalent)** |
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| **Q3. Why do you want to do a PhD?** A PhD is a 3.5 to 4 year commitment that requires high personal motivation. Please explain in **up to 200 words** how doing a PhD will lead to your chosen career, why you are interested in research and how you developed that interest.  |
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| **Q4. In which subject area(s) are you most interested to study for a PhD?** CENTA offers studentships within the NERC remit (see<https://nerc.ukri.org/funding/application/howtoapply/topics/>), specifically within three Science themes: Climate and Environmental Sustainability; Organisms and Ecosystems; Dynamic Earth. Further information is included at the bottom of this form and on the CENTA website (<http://www.centa.ac.uk/about/>).Please write up to **200** words explaining the subject areas in which you are most interested in studying for a PhD. Please try to be as specific as possible so that we can help match your ideas to potential supervisors actively researching your area of interest. |
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| **Q5. Which skills, aptitude and experience do you have that make you an ideal candidate for a PhD in the area you have chosen?**   In up to **200** words please tell us how your skills (e.g. technical, laboratory, field, computing, independent work or teamwork skills) align with the topic you are interested in. You may use examples from a wide variety of life experience including work, academic study, research, presentations or public engagement activities, wider reading, extra-curricular activities such as sports, volunteering or other community activities. |
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| **Q6. What do you think are the key research challenges in the PhD topic you are interested in?**  You may use **up to 350 words** for your answer, showing evidence of information found from a range of academic or non-academic sources. |
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| **Q7.**  **How do you plan and manage your time and motivate yourself during long-term projects?** Good project and time management skills are key to the successful completion of a PhD, so here is the opportunity to show us how you approach planning and carrying out projects. In **up to 200 words** please describe how you plan tasks and manage your time using evidence from your academic, work or life experience.  |
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| **Q8. What strategies do you use to solve problems?** You will have to solve many problems during your PhD research, so here is the opportunity to show us how you approach problem solving. In **up to 200 words** please describe a problem you have had to solve during your studies, at work, at home or elsewhere. Please describe how you solved the problem and how you might respond differently if you were faced with that problem again. |
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| **Q9. OPTIONAL Individual Circumstances:**  CENTA is committed to widening participation and opportunity for PhD studentships to a diverse community of applicants. To help provide further context to your application, here is an **optional** opportunity to provide information or context that may have impacted your academic career path so far. This may include (but is not limited to) caring responsibilities, disabilities, ill health and/or financial pressures. Personal details are NOT needed, but a note about the *effect* of the circumstance(s) on time available for study/extra-curricular experience and the *timescale* over which the circumstance(s) occurred (or continue to occur) would be helpful for appropriately evaluating your application relative to opportunity.  |
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**CENTA researchers cover the following fields:**

**Climate and Environmental Sustainability**

Climate System - satellite and ground-based observational capacities and approaches, climate system modelling, consequences of climate for hazard risk and its impact on societal and infrastructure resilience.

Air Quality - quantifying and modelling the sources, chemistry, transport and transformation of air pollutants (including bioaerosols) and their impact upon environmental and public health; modelling dynamics of air pollution; the impacts of (green) infrastructure on air pollution removal and dispersion; global chemical transport models; novel sensors and observations.

Water Science – water science; global biogeochemical cycles; hydrology; fluvial geomorphology; quantification and prediction of environmental impacts of hydro-climatological extremes, environmental and public health impacts of environmental pollution; ecosystem responses and resilience to environmental change.

Soil Science - land resources and sustainable soil management; pedology; soil health and quality; soil systems resilience; contributions to environmental change science and policy, food security, and ecosystem services.

Environmental Pollutant Fate and Behaviour - the fate and transport of synthetic organic pollutants (including pesticides and organic chemicals); plastic breakdown (e.g. in composting, anaerobic digestion, terrestrial soils, oceans); ecotoxicology; nanomaterials safety assessment; novel methods for detecting pollutants including microplastics.

Upper Atmosphere Science - interactions between the Sun’s outer atmosphere, solar wind and Earth’s atmosphere; improving resilience to key societal risks.

**Organisms and Ecosystems**

Palaeobiology and Evolution - vertebrate evolution; diversity and extinctions; exceptional preservation; plant speciation and extinction; quantitative macroevolutionary and palaeobiogeographical analyses; advanced imaging techniques for virtual analysis; human and societal evolution.

Contemporary Ecology and Biodiversity - biodiversity and ecosystem responses to global environmental changes (natural and anthropogenic); experimental and field-based studies on cognitive, behavioural, locomotor, restoration and urban ecology; natural capital and ecosystem services.

Environmental microbiology and biogeochemistry - microbial biology; metabolomics and genomics; C, S and N cycling in marine, freshwater, and terrestrial ecosystems; microbial life in extreme environments; quantitative population dynamics and predictive microbial ecology.

Vegetation and biogeochemical modelling - global–scale vegetation monitoring/modelling; estimating wildfire extent and forest cover and characteristics; land-use change and ecosystem function; P and N, and C dynamics in forests, crops and peat systems.

**Dynamic Earth**

Natural Resources and Energy - hydrocarbon exploration; transport of critical elements from the mantle to the surface; radioactive waste disposal; carbon capture and storage; energy storage; geothermal energy and mineral resources.

Surface processes, hazards, risk and products - sediment transport and deposition; assessment and mitigation of volcanic products, risks and hazards; assessment of changes in coasts and estuaries; rates of erosion.

Solid Earth Processes - sub-surface chemical and physical Earth processes including volcanic, igneous and metamorphic geology; analytical geochemistry; geochronology; geophysics.

Palaeoclimates and Palaeoenvironments - dynamics of Earth’s climate, oceans and ecosystems across a range of temporal scales; developments of chemical proxies; paleontological approaches.