



UNIVERSITY OF LEEDS

## CANDIDATE BRIEF

**Instrument Integration and Development Engineer**  
**National Centre for Atmospheric Science**



**Salary: Grade 7 (£38,205 - £45,585 p.a. depending on experience)**

**Reporting to: Dr Ryan Neely, Associate Professor of Observational Science**

**Reference: ENVNC1027**

**Contract 100% FTE, fixed term to 31 March 2027 (due to external funding)**

**We are open to discussing flexible working arrangements**

## Overview of the Role

**Do you have experience working on complex engineering or instrument systems projects? Are you keen to develop your skills and experience in a collaborative and supportive environment? Would you like a once-in-a-lifetime opportunity to develop unique scientific systems for an internationally leading Airborne Laboratory? If so, we want to hear from you!**

The FAAM Airborne Laboratory (FAAM) is a world-class research facility dedicated to the advancement of atmospheric science. FAAM operates a specially adapted BAe-146 4-engine research aircraft managed by a unique team of scientists, engineers, flight technicians and project managers, providing a complete package of support for the scientific community. The capabilities are extensively reliant on state-of-the-art scientific instrumentation, often uniquely customised for use on the aircraft, which is deployed throughout the world. FAAM is supported by the National Centre for Atmospheric Science (NCAS) and funded by the Natural Environment Research Council (NERC) and is an environmental research infrastructure of national and international importance.

The exciting FAAM Mid-Life Upgrade (MLU) project aims to deliver a range of upgrades and enhancements to the aircraft's scientific capabilities, measurement capabilities, and research impact, extending its useful life by at least 20 years. One significant upgrade to FAAM's scientific capabilities will be the introduction of a scanning Doppler LiDAR, capable of providing real-time downward-pointing profiles of the 3D wind field. The LiDAR is of bespoke design, developed by Fraunhofer UK.

As Instrument Integration and Development Engineer, you will work closely with the Fraunhofer team to learn in detail each part of the Doppler LiDAR subsystem. You will assist with the acceptance testing of each of the subsystems, and the integration of Fraunhofer systems onto the aircraft, working with the FAAM MLU design and engineering teams. The main focus of your work will be to develop the operational interface with the LiDAR that will allow the delivery of real-time quality-controlled final data products and user-configurable scanning patterns.

The aim is to produce a high-quality, reliable, and innovative atmospheric science instrument ready for initial field deployment in spring 2026. This deployment will form part of the system's testing and will take place in the Austrian Alps for approximately four weeks. There is also the possibility of further UK-based project support test flying during this period.



This is a unique and exciting role, ideal for a collaborative and innovative person who can work across disciplines and is keen to make a valuable contribution to an internationally significant project. The successful candidate will join a team committed to providing a working environment that is collegiate and inclusive, one where all staff are supported and developed in all aspects of their work.

The post will be employed by and based at the University of Leeds, with periods based within the FAAM team on the Cranfield University campus.

*This position is funded through the £49M FAAM MLU programme and as such, is fixed term, initially. The instrument forms part of a wider suite of instruments that will be at the heart of the overall science capability of FAAM going forward. How this capability is supported post-March 2027 is currently being developed and it is expected that by mid-2026 the shape of this support will be known. At this stage, we will be able to determine the longer term potential of the role.*

## Main duties and responsibilities

- Working with Fraunhofer UK on the development of the LiDAR hardware, learning the technical and maintenance requirements of the subsystems and providing NCAS oversight of acceptance testing;
- Designing and developing the LiDAR control interface and LiDAR user interface: hardware and software - this will include ground-based testing in Scotland;
- Working with Fraunhofer UK to ensure best design practice is maintained across systems and contributing to the lifecycle management of those systems;
- Working with Fraunhofer UK and the FAAM MLU team on the integration of the system into the aircraft and its flight-worthiness certification;
- Providing supporting documentation;
- Working with scientists on the field deployments to develop and deliver final quality-controlled data products and to beta-test user operations.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post, including the development of other optomechanical and remote sensing systems to support NCAS's scientific programme.



# Qualifications and skills

## Essential

- Demonstrable experience working on complex optomechanical/electrical engineering or instrument systems projects, with proven hands-on technical skills;
- Demonstrable ability with high-level programming languages (including Python);
- Demonstrable ability with Linux environments;
- A working understanding of computer networking and remote access;
- An innovative approach to problem-solving;
- A flexible, approachable personality, with a collaborative and collegiate approach to working;
- A track record that demonstrates a regular practice of detailed activity logging and good technical documentation writing skills;
- Personal resilience, organisational skills and the ability to remain calm under pressure;
- A willingness and ability to travel, both nationally and internationally, for up to 12 weeks a year (with some international trips lasting up to four weeks).

## Desirable

- Experience with creating Graphical User Interfaces (GUIs);
- Experience with LiDAR technologies;
- Experience with digital electronics and microcontrollers;
- Demonstrable ability with Git or similar version control systems;
- Demonstrable ability with creating and processing netCDF data;
- A project management qualification;
- A full UK or International driving licence.



## How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information page. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

## Additional information

Please note: If you are not a British or Irish citizen, from 1 January 2021 you will require permission to work in the UK. This will normally be in the form of a visa but, if you are an EEA/Swiss citizen and resident in the UK before 31 December 2020, this may be your passport or status under the EU Settlement Scheme.

Find out more about the [National Centre for Atmospheric Science](#) and [its relationship with the School of Earth and Environment](#)

Find out more about the [FAAM Airborne Laboratory](#)

Find out more about the [Atmospheric Measurement and Observation Facility](#)

Find out more about the [School of Earth and Environment](#)

Find out more about the [Faculty of Environment](#)

Find out more about our [Research and associated facilities](#).

Find out more about [Equality](#) in the Faculty.



## **Our University**

At the University of Leeds, we are committed to providing a culture of inclusion, respect and equity of opportunity that attracts, supports, and retains the best students and staff from all backgrounds. Whatever role we recruit for we are always striving to increase the diversity of our community, which each individual helps enrich and cultivate. We particularly encourage applications from, but not limited to Black, Asian, people who belong to a minority ethnic community; people who identify as LGBT+; and disabled people. Candidates will always be selected based on merit and ability.

The Faculty of Environment has received a prestigious Athena SWAN silver award from [Advance HE](#), the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

## **Working at Leeds**

We are a campus based community and regular interaction with campus is an expectation of all roles in line with academic and service needs and the requirements of the role. We are also open to discussing flexible working arrangements. To find out more about the benefits of working at the University and what it is like to live and work in the Leeds area visit our [Working at Leeds](#) information page.

## **Candidates with disabilities**

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found on our [Accessibility](#) information page or by getting in touch with us at [disclosure@leeds.ac.uk](mailto:disclosure@leeds.ac.uk).

## **Criminal record information**

### **Rehabilitation of Offenders Act 1974**

A criminal record check is not required for this position. However, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be, in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records](#) information.

