



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

**Mechanical Design Engineer, FAAM Airborne Laboratory,
National Centre for Atmospheric Science, Faculty of Environment**



Salary: Grade 8 (£42,149 - £50,296 p.a.)

Reference: ENVEE1537

Fixed term to 31 March 2026 (due to external funding)

**This post is based at the FAAM Airborne Laboratory, Cranfield
University**

We will consider job share/flexible working arrangements

**Facility for Airborne Atmospheric Measurements (FAAM),
Mechanical Design Engineer,
FAAM Airborne Laboratory (FAAM),
National Centre for Atmospheric Science (NCAS),
School of Earth and Environment, Faculty of Environment**

Are you highly motivated with a background in mechanical design and engineering? Do you have experience of working on complex engineering projects? Would you like develop scientific systems as part of the transformative FAAM Airborne Laboratory Mid-Life Upgrade project?

The FAAM Airborne Laboratory 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's measurement and operational capabilities are continually evolving, and management of this modification process has to be carried out effectively, against both time and budget constraints. The exciting Mid-Life Upgrade (MLU) project aims to deliver a range of upgrades and enhancements to the scientific capabilities of the aircraft, its measurement capabilities and its research impact, extending its useful life by at least 20 years.

The MLU is an ambitious 4-5 year £50m project to rebuild significant parts of the aircraft systems, and carry out a comprehensive upgrading of the aircraft's scientific and operational capabilities. Successful delivery will require working closely with major stakeholders, including BAe Systems as aircraft Design Authority, engineering suppliers and the aircraft's scientific user community. The entire project will comprise several hundreds of individual aircraft modifications, each of which will need to be properly developed and embodied on the aircraft.

As a Mechanical Design Engineer you will be responsible for leading design engineering at FAAM, carrying out duties such as design, prototyping, working with engineering documentation and undertaking supporting calculations. You will also develop FAAM's design and workshop facilities and establish a working relationship between FAAM and specialist design and manufacturing facilities.

Good innovative thinking is required along with the ability to work with scientists and engineers including the aircraft's Design Authority and other stakeholders. The aim is

to produce high quality, reliable and innovative atmospheric science instruments and systems for the FAAM aircraft.

This is a new post and will be ideal for a motivated person who is able to work across disciplines and keen to make a valuable contribution to the development of an internationally significant project.

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

What does the role entail?

As a Mechanical Design Engineer, your main duties will include:

- Designing innovative scientific instrument systems or components of systems for use on the FAAM aircraft;
- Providing supporting data and drawings to assist with the airworthiness assessment of systems (undertaken by the aircraft's Design Authority), contributing to manuals, guides etc., and producing design drawings and data packs for manufacture and assembly;
- Leading concept design with instrument designers and stakeholders;
- Managing and coordinating manufacturing and design facilities for FAAM and the MLU, e.g. with our stakeholders such as Avalon or with University facilities;
- Setting up and providing appropriate CAD facilities;
- Providing expertise and assistance with integrating multiple instrument packages onto the aircraft with a view to maximising efficiency in terms of mass and volume;
- Providing expertise and assistance with the analysis of existing systems to look for design improvement or systems retirement;
- Assisting with the manufacture and assembly of systems, ensuring components and sub-systems adhere to applicable safety, industry and business standards;
- Working with instrument providers to ensure best design practice is maintained across systems;
- Leading the integration of components and systems, including testing, calibration and documentation;
- Developing the lifecycle management of systems;
- Actively contributing to the overall success of the Mid Life Upgrade project.

The post holder will report to the MLU Director and will be supervised on a day-to-day basis by the MLU Project Manager.

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.

What will you bring to the role?

As a Mechanical Design Engineer, you will have:

- A mechanical design engineering background, with substantial experience of working on complex engineering projects;
- A bachelor's degree, equivalent qualification or experience in physical sciences or engineering;
- Excellent communication skills, with the demonstrable ability to communicate effectively across a range of stakeholders with good attention to detail;
- An ability to work within a multi-disciplinary team and lead others in the delivery of complex engineering tasks;
- An ability to deal with complex technical and process information and make informed decisions and recommendations;
- Experience in performing design tasks, prototyping solutions, working with engineering documentation, and undertaking supporting calculations;
- An innovative approach to problem solving and devising novel technical solutions;
- Good self-motivation and flexibility, with the ability to direct your work in consultation with colleagues;
- Willingness to work flexibly from a base at Cranfield, from home and occasionally from the locations of our stakeholders across the UK.

You may also have:

- Experience or understanding of project management or working as part of a project team;
- Experience of working in aviation or another safety critical environment;
- Knowledge of atmospheric science, meteorology, and/or meteorological instrumentation.

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.

Contact information

To explore the post further or for any queries you may have, please contact:

Stephen Devereau, Mid Life Upgrade Director, FAAM Airborne Laboratory

Email: steve.devereau@faam.ac.uk

Telephone +44 (0) 7500 973201

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 [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 and Inclusion](#) in the Faculty.

A diverse workforce

As an international research-intensive university, we welcome students and staff from all walks of life and from across the world. We foster an inclusive environment where all can flourish and prosper, and we are proud of our strong commitment to student education. Within the Faculty of Environment we are dedicated to diversifying our community and we welcome the unique contributions that individuals can bring, and particularly encourage applications from, but not limited to Black, Asian and ethnically diverse people; people who identify as LGBT+; and people with disabilities. 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

Find out more about the benefits of working at the University and what it is like to live and work in the Leeds area on 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.

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 page.