



Candidate Information Booklet

Quantitative Geneticist - Senior Scientific Officer

AFBI Newforge

IRC331587

Completed Application Forms must be submitted no later than 13th November 2026.

Communication between HRConnect and you

HRConnect will issue competition communications electronically. Please ensure you check your email account regularly, to make sure that you don't miss any important communications.

Please update us with any changes to your email address and home address to ensure you are fully informed at all times.

Equal opportunities

Agri-Food and BioSciences Institute (AFBI) is an equal opportunities employer and has been awarded the Bronze Charter Mark in recognition for our commitment towards Gender Diversity and Inclusion in the workplace. All appointments will be made strictly on the basis of merit. If you have any queries with regard to this recruitment process or require any documentation in an alternative format, please contact HRConnect via email Recruitment@HRConnect.nigov.net or call 0800 1 300 330.

Feedback - AFBI is committed to providing feedback to assist the development of current and future applications.

Recruitment overview

Thank you for your interest in our organisation. At AFBI you will find a fantastic team spirit and a commitment to the development of both you and your skills so that you can choose to have a long-term career with us.

This Candidate Information Booklet offers specific information to applicants. **Please note (AFBI specific) - read across will not be undertaken by the panel. The candidate must demonstrate how they meet each criterion in the relevant response to each criterion.**

Please read this document carefully in advance of submitting your application and retain it for reference throughout the recruitment process.

At AFBI, we take great pride in the work we undertake. All AFBI employees are appointed on merit on the basis of fair and open competition.

We wish you every success in your application!

Important dates - It is intended that interviews for this post will take place in AFBI HQ, Newforge Lane, Belfast during week commencing 7th December 2026.

Online interviews can be considered, however are not guaranteed.

Compulsory documentation - It is compulsory that all candidates invited to attend an assessment and/or interview, bring sufficient identification. Your attendance may not be permitted in instances where identification cannot be shown.

You want to change the world. So do we.

[Agri-Food and BioSciences Institute \(AFBI\)](#) is a leading provider of scientific research and services to government, non-governmental organisations and commercial organisations. We are sponsored by our key stakeholder, the Department of Agriculture, Environment and Rural Affairs (DAERA).

Our customers include a range of local, national and international commercial companies, Northern Ireland and UK Departments, Agencies and associated bodies in the European Union.

As a leading institute of research, we tackle the complex challenges of our industry through purpose-driven science. We are a community with a common goal: to leave the world better than we found it. Are we ambitious? Definitely. Are our ambitions achievable? Absolutely. AFBI has been defying scientific boundaries to create measurable, scalable and enduring solutions to agri-food and marine science complexities in Northern Ireland - and beyond - since 2006.

We are delighted that you are considering joining us.

Of all the many factors that come together to make AFBI what it is, nothing is more important than our employees. Every area of our service delivery is underpinned by a number of dedicated teams working in synchrony to ensure the provision of scientific excellence. Across our four divisions, every team member, from those on the scientific front to those working behind the scenes in one of our offices, plays an essential role in delivering our long tradition of excellence, whilst helping to propel future discoveries. Together we are better.

Our People Vision is to:

Attract, empower and grow purpose-driven staff with the passion and capability to pursue excellence, embrace technology and cultivate innovation and change.

This is how we do great science.

Great people. Great science.

Sustainable Agri-Food Sciences Division

The Sustainable Agri-Food Sciences Division (SAFSD) employs scientific, technical and support staff across its five scientific based branches.

It is a highly multidisciplinary team with a central focus on sustainable farming. In doing so its overarching goal is to drive innovations and science which deliver positive outcomes for livestock and plants, the environment they are grown in as well as the wider economy. This multi-disciplinary team explores all aspects of the food supply chain taking research and scientific exploration from the soil through to the plant, the animal, and the resultant food quality and its nutritional value. It also works with colleagues at VSD to ensure animal health and food safety is optimised. A key element of the work also examines quantitative and qualitative socioeconomic impacts.

SAFSD utilises a highly instrumented platform representing livestock and land based agriculture to service its main deliverables of research and innovation and statutory testing. SAFSD also collaborates extensively with other research organisations, industry and government departments locally, nationally and internationally. A key drive within SAFSD is to produce high quality peer reviewed publications whilst also ensuring the practical translation of science through an active dissemination programme.

SAFSD Branches

Agronomy & Plant Science Branch is concerned with optimising grass and crop production through the breeding and testing of new varieties, understanding the interaction of plants with the soil and wider environment, and the development of new plant-based agricultural and horticultural products.

Economic Research Branch undertakes quantitative and qualitative socioeconomic research to inform agri-food and rural policy development and industry decision making, regionally and nationally. Environmental economics, linked with the local, national and international economy is of increasing prominence in this branch.

Plant Health & Integrated Pest Management Branch underpins DAERA's policy development on plant health and delivers scientific advances in the detection, management and control of invasive and native pests and pathogens affecting plants, agriculture and the environment.

Sustainable Livestock Systems Branch links fundamental livestock science to systems level research to deliver innovations which drive sustainability within the agri-food sector and advance scientific knowledge.

Statistical & Data Sciences Branch provides statistical analyses, consultation services and data analytics to bring forward data driven solutions for a sustainable agri-food industry and our environment. It also supports a wide range of scientific research projects and statutory work carried out by AFBI.

Researched Farmed Estate provides the essential Support Services to ensure the Science and Research objectives and requirements are met and delivered on the Farmed Platform.

This job role sits within the Agronomy & Plant Science Branch, based at AFBI Loughgall.

About the Agronomy and Plant Science Branch

The Agronomy and Plant Science Branch (APSB) sits within the Sustainable Agri-Food Sciences Division (SAFSD) and is based across AFBI's Crossnacreevy and Loughgall sites. The branch provides a UK based statutory function aligned with variety and seed testing of grasses and cereals as well as a programme of research on agronomy which includes a focus on plant genetics and genomics, especially aligned with adapting to climate change. Knowledge exchange activities to a wide variety of stakeholders is also undertaken extensively.

The work of the Branch aligns closely with AFBI's strategic theme of 'Leading Improvements in the Agri-food Industry to Enhance its Sustainability'. The work of the branch is focused on delivering the following two high level strategic initiatives:

- To identify and explore opportunities for new land management and alternative food production systems which optimise the economic value of the NI food system and promote the circular bioeconomy within it.
- To explore and harness opportunities for industry aligned with climate change adaption while minimising the risks from climate change.

Work at AFBI Loughgall focuses on Grass Breeding and associated research. The highly successful AFBI perennial ryegrass research breeding programme produces highly productive locally adapted varieties for the UK and Ireland. In the last 5 years, 10 varieties have been recommended on UK/ROI Recommended Lists and over 70% of seed mixtures in NI contain one or more AFBI varieties. The grass breeding research programme aims to develop varieties with higher nutrient efficiency and improved resilience to climate change by targeting environmentally positive traits whilst continuing to produce higher yielding varieties of higher digestibility that can improve profitability whilst reducing methane release from the rumen on farm. Associated research includes projects on identifying root traits for improved resilience to our changing climate.

We seek a quantitative geneticist to lead predictive breeding approaches, including the development and application of genomic selection, within our grass breeding programme. This role offers an exciting opportunity to build a research area in quantitative genetics while working within an established forage breeding pipeline. The role will combine advanced quantitative genetics with close collaboration with breeders and field teams.

Job Information and Employee Benefits

There is currently one permanent full-time position to be filled at Senior Scientific Officer (SSO) grade. A reserve list will exist and will be held for a period of 12 months from the date of interview, to cover any further permanent or Fixed Term vacancies which may arise.

Salary

The salary for the post will be within the range £47,304 - £49,515 (under review) within which pay increases will be on an incremental basis provided staff performance reports are satisfactory.

Starting salary will normally be at the minimum of the scale.

Annual Leave

In addition to the usual public and privilege holidays, there is an annual leave allowance of 25 days, increasing to 30 after five year's satisfactory service.

Working Hours

The successful candidate will normally be required to work 5 days each week, totalling 37 hours. On occasions the duties may include some evening and weekend working. AFBI operates a flexi working system.

Location

The successful candidate will be based at AFBI Loughgall, Co. Armagh, however, they may, on occasion, also be expected to work at other AFBI sites in Northern Ireland as required.

Travel

The post will involve travel within Northern Ireland, the Republic of Ireland, the UK and internationally. The successful applicant will be required to meet the travel demands of the role in full. This will require them to have, or to be able to obtain and maintain within a reasonable timescale, access to a form of transport that enables them to fulfil all duties associated with the post.

It will be a condition of appointment that you obtain the legal entitlement to drive AFBI vehicles within a reasonable period following appointment if you do not currently have a UK/ Northern Ireland driving license.

Pre-Employment Checks

Pre-employment checks consist of a qualification check and an AccessNI check. The security check required for this post is basic level. HRConnect will provide your details to Experian who will undertake this check. This is a two-part process during which all communications will be issued to you electronically.

Probationary Period

The post holder will serve 12 months' probation in the new post. This will commence from the date of appointment. At the end of the probation period a formal review will be conducted to determine if the posting will be extended.

Professional Development

We believe in our employees and understand the importance of investing in ongoing development. Support for professional development will always be considered.

Employee Benefits

AFBI offers employees an unrivalled benefits package. For further information please click [here](#).

Right to Work

Candidates must be able to demonstrate their Right to Work. Where a candidate has a Right to Work status which has a time limitation, ongoing checks will be in place to ensure the Right to Work is maintained.

VISAs (if applicable)

If there is a requirement for a VISA/VISA renewal, AFBI would not be responsible for the financial costs, this would be the onus of the candidate. AFBI will however support the Certificate of Sponsorship.

Further Information

Further Information about the post may be obtained from AFBI People & Culture via email at SAFSDpeopleandculture@afbini.gov.uk

For information on how the recruitment process will be managed and for further recruitment and selection resources, please click [here](#).

For information on our equal opportunities, please click [here](#).

Job Background

The post holder will report to a Grade 7 and the main duties of the post will be:

1. Lead Predictive Breeding and Quantitative Genetics Approaches

The post holder will lead the development and application of predictive breeding and quantitative genetics approaches within the AFBI grass breeding research programme. This will include driving the design and implementation of genomic selection and ensuring these tools are effectively integrated into annual breeding decisions. The post holder will provide specialist analytical insight to support data-driven selection and contribute to long-term strategies for trait improvement and genetic gain.

2. Development of a Quantitative Genetics Research Programme

The post holder will develop and advance a research programme in quantitative genetics, aligned with AFBI strategic priorities and the needs of APS branch. This will involve enhancing methods such as trait modelling, prediction frameworks and selection indices, as well as generating high-quality scientific outputs. They will contribute to AFBI's research profile by securing opportunities for publication and participating in collaborative research activities.

3. Data Analysis, Modelling and Interpretation

The post holder will undertake advanced analyses of genomic, phenotypic and multi-environment trial datasets using appropriate mixed-model and multivariate approaches. They will be responsible for developing and refining prediction models and decision-support tools that inform breeding operations. Robust data stewardship, reproducibility and documentation will be central to this responsibility, ensuring compliance with AFBI standards and enabling reliable use of analytical outputs across the programme.

4. Scientific Leadership and Programme Integration

The post holder will provide authoritative scientific advice to the Breeding Research Programme Leader and the wider team, ensuring predictive and quantitative genetics methods are effectively integrated into operational breeding. They will work closely with the breeder and field staff to support coordinated delivery of breeding objectives. They will also contribute to the strategic development of AFBI's predictive breeding capability and long-term planning.

5. Project Leadership and Delivery

The post holder will lead on externally funded research projects under their research remit, ensuring effective planning, resource management, risk management and delivery milestones. They will prepare project reports, scientific publications and stakeholder updates, and will play an active role in developing competitive funding proposals. The role requires effective leadership of collaborative research activities and consistent delivery against programme and funder expectations.

6. To fulfil other duties

The post-holder will be required to fulfil any other duties and responsibilities as determined by senior management that fall within the general responsibilities of the post. This job description is not intended to be rigid and inflexible but should be regarded as providing guidelines within which the post-holder will work.

This list is not exclusive, and the successful candidate will be required to carry out other duties as required by management.

Eligibility Criteria

Applicants must, by the closing date for applications provide evidence in their application form that they meet the following eligibility criteria.

1a. A PhD in quantitative genetics, plant breeding, statistical genomics, computational plant biology, or other closely related discipline.

OR

1b. A Degree, equivalent or higher in a relevant mathematical or biological science **AND** 2 years' demonstrable experience in a research capacity post qualification in a **relevant field***.

Please note that applicants are required to demonstrate that they meet either Section 1(a) or Section 1(b) of the eligibility criteria; it is not necessary to complete both sections.

2. **Two peer reviewed publications as an author in areas relevant to quantitative genetics, statistical genomics, biological sciences or another relevant natural science discipline.

3. Experience applying quantitative genetics or predictive breeding methods to large phenotypic and/or genomic datasets.

4. Experience in developing or applying genetic prediction models, such as genomic selection, mixed-model analyses, multivariate or multi-environment modelling.

5. Proven competence in at least one relevant analytical programming environment (e.g. R, Python, or equivalent).

6. Experience of working with an operational breeding programme at pipeline level.

7. Possess a full, current driving licence for manual vehicles, (to aid the successful candidate in driving an AFBI vehicle) enabling the licence holder to fulfil the duties of this role, or be willing to obtain the legal entitlement to drive AFBI vehicles within a reasonable period following appointment. As per the Disability Discrimination Act 1995 (DDA) any reasonable adjustments will be considered.

Relevant or equivalent qualifications: give the type of qualification and date awarded (the date awarded is the date on which you were notified of your result by the official awarding body). If you believe your qualification is equivalent to the one required, the onus is on you to provide the panel with details of modules studied etc so that a well-informed decision can be made.

Please Note:

**Publish is defined as papers either accepted for publication or published.

****Applicants must provide evidence of eligibility criterion 2 by submitting a fully cited bibliography (authors, paper title, journal title, volume, and page numbers) of **all** publications offered. For the papers submitted applicants must demonstrate the contribution made under the following author roles from the Elsevier Credit taxonomy: conceptualisation, methodology, formal analysis, investigation, writing – original draft, and supervision.**

Candidates can provide this information within the application form itself, or if necessary, it can be sent by the closing date for applications as a separate attachment to: recruitment@hrconnect.nigov.net

The bibliography should be marked with the relevant competition reference number (IRC331587), competition title and your full name.

***Relevant field** – leading a genomic selection programme within a plant breeding pipeline.

Person Specification

This position is analogous to Deputy Principal in the NICS.

Candidates will be expected to demonstrate the skills and competencies set out in the Eligibility Criteria. In addition, they will also be required to demonstrate competency in Professional Knowledge & Skills pertaining to this post together with the skills and competencies set out in the Northern Ireland Civil Service (NICS) competency framework at Level 3 for the purpose of personal and professional development.

Selection panels will design questions to test the applicant's knowledge and experience in each of the above areas and award marks accordingly.

You should refer to the behaviours listed under level 3 of the relevant competence areas.

To view the NICS Competency Framework, please click [here](#).

Interview Criteria

In addition to satisfying the eligibility criteria applicants will also be expected to display the following qualities and skills at interview –

Presentation

Before the competence-based interview, candidates will be asked to deliver a presentation lasting no more than 7 minutes. The subject of this presentation will be provided in the invitation letter. Following the presentation, the panel may ask questions on the presentation.

Candidates should fully prepare their presentation in advance, and no preparation time will be provided on the day of interview. Your presentation must be delivered via Microsoft PowerPoint and you will be asked to submit the file in advance by a specific date. Full details will be provided in the invitation letter.

The presentation will contribute to assessing you against **Professional Knowledge and Skills**.

1. Professional Knowledge and Skills

Marks available: 50 Minimum Standard: 30

2. Making Effective Decisions

Marks available: 15

3. Leading and Communicating

Marks available: 15

4. Collaborating and Partnering

Marks available: 20 Minimum Standard: 12

5. Delivering at Pace

Marks available: 10

Total marks available: 110

Overall pass mark: 66 (60%)