

FURTHER PARTICULARS OF ROLE

Research Fellow – Data Science Fixed-Term 4 years / Full-Time Barony Campus, Dumfries (Location Flexible) Ref : ASWF/AGR/OO7/22

ABOUT SRUC

SRUC – A Higher Education Institute for the Rural Sector

SRUC (Scotland's Rural College) is a specialist higher education institution delivering tertiary education, research and consultancy.

We currently operate our main Higher and Further education activities from five campuses across Scotland – Aberdeen, Barony, Edinburgh, Elmwood, and Oatridge. We also deliver teaching in collaboration with the Glasgow Botanic Gardens.

SRUC employs approximately 1,300 staff operating from the five campuses, eight farms, 25 consulting offices, six research centres and eight veterinary surveillance centres located primarily across Scotland. The organisation's annual turnover is around £85 million.

SRUC's principal purpose is to advance education, science, research, and environmental protection and improvement in rural and land-based industries, both domestically and internationally. The commercial consultancy, skills training and knowledge exchange and some commercial research activities are undertaken through SAC Consulting – part of SRUC.

It is SRUC's intention to become a fully-fledged university – a new and unique establishment for the 21st century that is regional, accessible, market-focused and responsive to a diverse range of challenges in the emerging natural economy. We will be a strong and unique anchor institution where research, skills and business converge. Such convergence will create new insights that deliver big strategic leaps and completely new propositions for business, society and government.

All of this activity is firmly rooted in our distinctive ethos of a Scotland-wide presence through regional centres of global excellence. Our objective is to deliver on shared goals with government, business and other partners to drive forward the natural economy through inclusive growth, job creation and generation of commercial opportunities.

DIVISION

Academic – South and West Faculty – Department of Agriculture

GROUP

Department of Agriculture



Dairy Research Centre and Innovation Centre

The Dairy Research and Innovation Centre conducts a wide range of activity to develop, implement and promote sustainable breeding and management systems for dairy cows. The work has been based at Crichton Royal Farm, Dumfries for almost 50 years and we will be moving to new and extended facilities at Barony campus (also near Dumfries) over the next few years.

Major areas of work include finding ways to improve the health and welfare of UK dairy herds and measuring different systems' effects on the environment. Our work increasingly considers the carbon footprint, biodiversity and soil health aspects of dairy production. Dairy systems research is performed with the globally renowned Langhill pedigree herd, selected since 1970 as a high genetic merit line and a control line for production of milk solids. The detailed recording of these animals presents many opportunities for a diverse range of add-on monitoring projects – from lameness detection through to proxies for feed efficiency and methane emissions. We have just commenced a major EU-funded project looking at the establishment, stability and effects of the microbial communities that establish on these cows.

Our capacity for research on the nutrition and health of dairy calves and youngstock has expanded in recent years and we are now well equipped to study the lifetime trajectories, health and performance of cows. This work will expand and become increasingly automated and digital as we move to new facilities at Barony Campus. We continue to conduct studies of nutrition and milk quality, as well as evaluations of precision farming technologies for both industry and public bodies. The new £21.3 million Strength in Places project "Digital Dairy value Chain for SW Scotland and Cumbria" will be an exciting expansion of our work on sensing and data systems, as well as allowing us to work closely with the many large and small dairy processors in our region.

Strength in Places – Digital Dairy Chain

The UK is the third-largest milk producer in Europe and eleventh in the world. It produces 14.9 billion litres each year, with a farm-gate value of £3.7 billion.

Most UK-produced milk is supplied to manufacturers who process and package it for liquid consumption (47.5%) or process it into value-added products (50.6%). UK dairy processors deliver a gross value added (GVA) of £1.8 billion.

Cumbria and South-West Scotland is the UK's second largest milk field, producing 1.9 billion litres each year, with a farm-gate value of £750 million. There are 52 dairy manufacturing businesses adding value to milk produced from 1,300 farms.

Global demand is expected to grow by around 5% per annum to 2025. The UK is cost competitive and well placed to take advantage of emerging markets. Processors have made significant capital investment (£867M in five years), pursuing innovation strategies and new market opportunities.

Led by SRUC, the Digital Dairy Chain could generate an additional £60m a year for a region which produces nearly two billion litres of milk a year.

Globally, the industry produces around 3 per cent of greenhouse gases related to human activity. As well as helping to decarbonise the region's dairy industry, the project will help to develop and retain a skilled and innovative workforce in the area to create new products and new ways of working.

These will be special to the region but also globally relevant in best practices and changing the perception of dairy as a high-value product.

Working with partners operating in the region, including the University of Strathclyde, University of the West of Scotland, CENSIS, First Milk, Lactalis UK & Ireland, Kendal Nutricare, Cows & Co Group, National Milk Records and SmartSTEMS, the project will provide a platform for research and business innovation in advanced, sustainable, high-value production and processing.

The project team will work with the dairy industry to develop and implement technologies for sensing and data handling, as well as infrastructure to support innovation and growth for local businesses, nurturing young entrepreneurs and teaching and training of new skills and capabilities. It will deliver advanced manufacturing processes to create a fully integrated and traceable supply chain as well as help businesses to develop new products and explore new markets.

After receiving £21.3m from the UKRI Strength in Places fund, the project will be based at SRUC's Barony campus near Dumfries, as well as at sites in Cumbria and across South-West Scotland

To find out more, visit the [Digital Dairy Chain website](#).

ROLE REQUIREMENTS AND RESPONSIBILITIES

Detailed below are the job description, person specification and qualifications listing the essential and desirable requirements for the post, which will be used as the basis for shortlisting. When applying for the post please use the 'Supporting Statement' section of the application form to address the list of requirements indicating how your qualifications, experience, skills, knowledge and disposition match the qualities in the list, together with examples if possible.

Based in SRUC's Dairy Research & Innovation Centre in Dumfries and working with a wide range of project partners and stakeholders across South-West Scotland and Cumbria, the purpose of this post is to develop data driven R&D projects as part of the exciting new Strength in Places Project "Digital Dairy Value-Chain for SW Scotland and Cumbria." SRUC is leading this 5-year, £21.3 million project along with University of Strathclyde, University of the West of Scotland, CENSIS, First Milk Limited, Lactalis McLelland Limited, Kendal Nutricare Limited, Cows & Co Group Limited, National Milk Records PLC and SmartSTEMs.

The appointee will work closely with existing and new data from SRUC's dairy farm, as well as with partner data from commercial dairy farms. There will be close collaboration with data scientists employed by other project partners, such as, dairy processing partners, environment agencies and the SRUC 'Agrecalc' carbon footprinting team.

The successful candidate will work on analysis of field-scale data, with an initial focus on demonstrating the use of weather and farm information (including from networked met stations) in the management of nutrient applications (slurry, fertiliser etc.) to minimise

emissions of ammonia and nitrous oxide. They will collaborate with other researchers in developing a digital twin of the SRUC dairy farm.

In this role you will:

- Liaise with other research staff at SRUC and project partners about project (industry) objectives and data sources.
- Liaise with other research and IS staff at SRUC and project partners about the collection and storage of data.
- Develop appropriate solutions for data handling (including automation), analysis and visualisation from the projects described above. This will include identifying and further developing modern data science approaches for the development of prediction models, with a focus on machine learning algorithms or digital twinning.
- Collaborate with other SRUC and partners staff involved in data management and analysis to advance data science capacity and capability within SRUC. Contribute to developing a strong data science community across Strength in Places academic partners SRUC, UWS and University of Strathclyde.
- Develop further research programmes in data science, contributing to grant winning and writing research papers – to build longevity of the programme beyond the 5 years of Strength in Places funding.
- Provide data support, including training, for partner businesses involved in the projects.
- Contribute to teaching or training activities – developing a greater awareness of the role and opportunities for sensing and data in agri-food industries.
- Present project results through a range of media, particularly through demonstration activities and events for businesses in the Strength in Places region of SW Scotland and Cumbria. Also, making presentations to internal audiences.
- Expected to supervise student projects (honours, MSc etc.).

The post-holder will perform additional duties as directed from time to time by the Line Manager. The post holder must use their initiative in the conduct of their work, and apply sound judgement at all times to ensure that they conduct themselves within the framework of SRUC regulations and procedures.

PERSON SPECIFICATION

Please see below details of the essential and desirable criteria required for this post. Applicants will be shortlisted based on meeting this criteria. Please ensure you complete your application form considering the criteria below:

Competencies	Essential	Desirable
Education / Qualifications	<ul style="list-style-type: none"> • PhD in data science, informatics, computing science or statistics • Alternatively, a PhD in a closely related computational field with a strong data engineering/computer programming element • Or extensive experience in a closely related field 	

Skills / Abilities	<ul style="list-style-type: none"> • Strong team working skills, as well as an ability to work independently • Effective organisational and time-management skills • Excellent communication/KE skills, in terms of both written and verbal outputs 	
Experience	<ul style="list-style-type: none"> • Experience of collaborative research in data-intensive and quantitative science • Postdoctoral research experience in applied data, including grant winning and publications • Experience in database design, database administration, and data wrangling/engineering 	<ul style="list-style-type: none"> • Track record of applying for and securing independent research funding • Some experience of teaching / delivery of training at undergraduate and/or postgraduate levels and/or to professional audiences • Experience as a supervisor for postgraduate research students (MSc and/or PhD level) • Experience in software development/engineering • Experience in development of automated data pipelines for repeated or ongoing analyses
Knowledge	<ul style="list-style-type: none"> • Knowledge of approaches to data management • Familiarity with a wide variety of modern data science techniques (e.g. regression modelling, machine learning, visualisation) and knowledge of their suitability in different situations for different processes • Knowledge and application of data security practices • Knowledge of relational database management systems 	<ul style="list-style-type: none"> • Familiarity with agricultural systems, ideally livestock systems • Familiarity with data protection regulations and legislation, ideally in the UK
Other Requirements	<ul style="list-style-type: none"> • Flexibility to travel and work in locations across SW Scotland and Cumbria – mostly home-based with travel required across the project region (occasionally Edinburgh or other UK locations). Campus base will be SRUC's Dairy Research & Innovation Centre, Dumfries. • Postholder may be expected to occasionally support out-of-hours events. 	

The post holder will have a proven track record as an independent scientist with substantial experience in modern data science techniques

ENVIRONMENTAL RESPONSIBILITIES

SRUC expects the post-holder to carry out their job responsibilities in an environmentally aware manner, ensuring as little damage to the environment as possible. Our aim is to ensure all resources are utilised effectively and efficiently.

BRIEF STATEMENT OF TERMS AND CONDITIONS OF EMPLOYMENT

EMPLOYER (Head Office)

SRUC, King's Buildings, West Mains Road, Edinburgh EH9 3JG.

GRADE AND SALARY

The appointment will be made on the following scales:

- Research Fellow- Data Science: Grade 3 salary scale: £37, 877- £41, 631 per annum.

If appropriate, on successfully completing a probationary period of 9 months, you will receive a salary rise up the point equivalent to half way between your starting salary and the top of the appointed scale. If appropriate, after a further 12 months, you will move to the top of the scale.

Any cost of living increases are normally awarded on 1st August each year.

To support SRUC's journey to become an enterprise university at the heart of the rural economy, we are currently in the process of standardising our terms and conditions of employment across the organisation. This includes a review of our existing terms and conditions of employment, and our existing pay and grading structure, both of which this document refers to. It should therefore be noted that the details provided in this document are subject to change pending the outcome of this review.

CONTRACT TYPE

Fixed term for 4 years / full time.

LOCATION

Base Location is SRUC Dairy Innovation Centre, Barony Campus, Parkgate, Dumfries DG1 3NE. Flexibility to travel and work in locations across SW Scotland and Cumbria. Mostly home-based with travel required across the project region (occasionally Edinburgh or other UK locations).

HOURS OF WORK

SRUC has a normal working week of five days (Monday to Friday) of 37 hours (excluding lunch breaks). Staff may be expected to undertake occasional evening and weekend working to meet specific deadlines.

PROBATION

All appointments are subject to a probationary period of 9 months after the start date to formally assess suitability for the post and to assess training needs. Regular meetings will be held during the probationary period to discuss and evaluate progress during this period.

BENEFITS

ANNUAL LEAVE

Annual leave entitlement is 21 flexible annual leave days each year, rising to 26 working days after 5 years service.

On average 12 fixed public and privilege days each year which are to be taken according to SRUC arrangements.

Holiday entitlement for part-time staff is worked on a pro rata basis of the full-time entitlement. Where staff work irregular hours, their holiday entitlement will be calculated on an hourly basis.

PENSION

All employees may choose to become a member of the Group Personal Pension Scheme. Employee contribution is a minimum of 5% of salary and employer contribution is set at 10%. Contributions are paid through salary sacrifice which attracts income tax and NI savings for employees.

CYCLE TO WORK

SRUC can provide you with a new bicycle and the appropriate cycling safety equipment through a salary sacrifice scheme, providing the main use of the bike is for commuting to work. You will incur no tax and National Insurance on the benefit.

RAC MEMBERSHIP

All employees are eligible to join the RAC's discounted Membership Scheme which offers significant savings on normal subscription rates. Members can have more than one car covered. The number of call-outs is unlimited, although RAC reserves the right to review memberships and refuse renewals of memberships.

MOBILE PHONES

SRUC may provide a mobile phone to employees required to travel in the course of their duties.

FAMILY/LIFESTYLE FRIENDLY

SRUC is committed to assisting employees in achieving a work/life balance and has several supporting family/lifestyle friendly policies to reflect this. A brief outline of what is available to all employees is as detailed below:

Maternity pay and leave	26 weeks full pay + 13 weeks statutory maternity pay + 13 weeks unpaid (after qualifying period)
Adoption pay and leave	26 weeks full pay + 13 weeks statutory adoption pay + 13 weeks unpaid (after qualifying period).
Paternity pay and leave	2 weeks full pay (after qualifying period).
Parental leave	Up to 18 weeks unpaid leave to a maximum of 4 weeks per year (pro rata for part-time staff) to spend a child up to the age of 18 (subject to eligibility criteria).
Flexible working	SRUC is willing to consider requests for flexible working arrangements, such as part time and home working, for all groups of staff (regardless of their family situations) (subject to eligibility criteria).
Give as You Earn	Employees can make donations to a chosen charity directly from pay, up to an annual limit and receive tax relief.

CULTURAL AND RELIGIOUS NEEDS

We respect the cultural and religious lives of our staff. If you need time away from work, or special facilities, and can give plenty of notice for arrangements to be made, this will always be considered.

STAFF DEVELOPMENT

SRUC is committed to providing the development and training necessary to ensure that all employees have the knowledge and skills required to fulfil their job roles effectively.

Staff development is of major importance to SRUC and accordingly, we try to provide every opportunity for future career development. This includes thorough induction into the organisation and regular reviews of learning and development needs.

SPONSORED EDUCATION

As a learning organisation, SRUC is committed to investing in its employees and accordingly may fund courses that will lead to an externally recognised qualification such as an HNC, HND or equivalent, undergraduate/postgraduate degree qualification, where such a qualification will demonstrate benefits to both the organisation and the individual.

TRADE UNION

Trade Union representation is recognised by SRUC. You may be contacted by relevant unions once you commence employment with SRUC. Members of staff are free to decide whether or not to become members of a trade union.

ADDITIONAL

EXPENSES

Assistance may only be given towards travel expenses for interview by prior agreement with the Recruitment Manager.

TRAVELLING AND SUBSISTENCE

Travelling and subsistence expenses incurred in connection with the duties of the post will be paid according to the reimbursement rates in effect.

DRIVING LICENCE

If a driving is an essential or a major part of your job role in SRUC, you must have a full current driving licence at all times.

NO SMOKING POLICY

SRUC operates a 'No Smoking' policy.

EQUAL OPPORTUNITIES

EQUAL OPPORTUNITIES POLICY STATEMENT

It is the policy of SRUC to provide equality of opportunity for all applicants for employment and for all its employees.

This policy of equal opportunity will apply regardless of a person's gender, age, marital status, parental status, race, colour, nationality, ethnic origin, religious beliefs, HIV status, sexual

orientation, gender identity, gender reassignment, transexualism or physical or mental disability, or any other inappropriate distinction.

SRUC is committed to the development and use of employment procedures and practices, which do not discriminate and which will provide genuine equality of opportunity for all employees.

DISABILITY POLICY STATEMENT

SRUC is committed to a positive and pro-active approach to people who have a disability/learning difficulty (e.g. a physical disability, sensory impairment, medical condition, learning difficulty or mental health condition). SRUC would seek to enable employees with any such disability/learning difficulty successfully to pursue their work in equality with all other employees, through recognition of the additional support they may need to achieve this.

SRUC is committed to the Disability Confident scheme which includes recognition of the Two Ticks Positive About Disability process and guarantees an interview to people with disabilities who meet the essential criteria for a job vacancy. Human Resources will monitor compliance with this commitment.

Please inform Human Resources if any adjustments or support are required for interview, or whether any adjustments or adaptations may help you overcome operational difficulties presented by the job.

Although disabled applicants are not obliged to inform employers of their disability they will still be covered by the Equality Act 2010 once their disability becomes known.

STANDARD PRE-EMPLOYMENT CHECKS

When recruiting new staff we are required to ensure that the character and background of applicants are thoroughly assessed to maintain and implement an effective risk assessment and recruitment policy. We therefore take the following steps to vet any applicant:

1. REFERENCES

As part of the selection process references (employment and/or character) will be obtained on all potential new employees **prior to the commencement of employment**.

If you have previously been employed, your referees should be people who have direct experience of your work through working closely with you for a considerable period, and at least one of them should be your formal line manager in your most recent job. Otherwise they may be people who know you from recent college, school, or voluntary experience. It is helpful if you can tell us briefly how each referee knows you (e.g. 'line manager', 'work colleague', 'college tutor'). Your referees should not be related to you.

Your referees will be asked to comment on your suitability for the post and to provide details of the dates of your employment; your attendance during the last 12 months; and of any disciplinary processes which are still considered 'live'.

We will assume that we may approach them at any stage unless you tell us otherwise. If you wish us to ask for your permission before approaching a particular referee, or to contact them only under certain circumstances (for example, if you are called to interview) *you must state this explicitly alongside the details of the relevant referee(s).*

We have the right to withdraw a conditional offer of employment if the references are unsatisfactory, or if we are unable to obtain a reference without good reason within a reasonable time period.

2. MEDICAL

As part of SRUC's employment process, we ask all successful candidates to complete a pre-employment medical questionnaire. The pre-employment medical questionnaire will be issued to the successful candidate at the offer stage. Please note that any offer of employment is conditional upon the completion of satisfactory completed pre-employment medical questionnaire.

The purpose of the pre-employment medical questionnaire is to ensure we fulfil our responsibilities under the Health and Safety at Work Act 1974 and ensure that the proposed employment does not present any risks from a medical point of view.

3. DISCLOSURE SCOTLAND

The successful applicant for this post will be subject to a Disclosure Scotland Report as to the existence and content of any criminal record (known as Basic disclosure) and any offer of employment will be subject to SRUC being satisfied with the outcome of the disclosure check.

SRUC may, following the check, terminate the contract with immediate effect if not satisfied with the suitability of the successful applicant for employment by reason of criminal record or antecedents. SRUC reserves the right to determine this issue at its sole discretion.

The relevant payment for Disclosure will be made by SRUC.

Application forms for Disclosure will be sent with the offer letter to the successful applicant. The form should then be completed in full and returned to Human Resources – we will then complete the necessary parts required by SRUC (including the payment details) for submission to Disclosure Scotland for processing.

Further information regarding disclosures and the Code of Practice and Explanatory Guide can be obtained from Disclosure Scotland's website at www.disclosurescotland.co.uk

APPLICATIONS

Applications from disabled applicants:

SRUC believes in equality of opportunity and freedom from discrimination for all its current and potential employees and strives to be a leader in the provision of this basic right and has accordingly made a commitment to improve employment opportunities for people with disabilities.

SRUC is an accredited member of the Department for Work and Pensions Disability Confident and Two Ticks 'Positive About Disabled People' schemes in recognition of our commitment to meet the essential five criteria regarding the employment, retention, training and career development of disabled employees. This means that SRUC has undertaken to guarantee an interview to all applicants with a disability who meet the essential requirements of the job as contained in the person specification and will take all reasonable steps to meet any special requirements individuals invited to interview may have.

Please let Human Resources know if any adjustments or support are required for interview, or whether any adjustments or adaptations may help you overcome operational difficulties presented by the job.

Applications from Non-UK Nationals:

The Immigration, Asylum and Nationality Act 2006 makes it a criminal offence for employers to employ someone who is not entitled to work in the UK. We therefore ask applicants to provide proof of their right to work in the UK before employment can commence.

For academic and research vacancies, or posts that require very specialist skills we can apply for a work permit (although there is no guarantee that this will be granted) if there are no suitable UK candidates available to appoint. Applicants who would need a work visa if appointed to the post are asked to note that under the UK's new points-based migration system they will need to demonstrate that they have sufficient points, and in particular that:

(i) they have sufficient English language skills (evidenced by having passed a test in basic English, or coming from a majority English-speaking country, or having taken a degree taught in English)

and

(ii) that they have sufficient funds to maintain themselves and any dependants until they receive their first salary payment.

In the case of all other posts it is highly unlikely that a work permit would be granted, therefore if you are not currently eligible to work in the UK it is unlikely that we would be able to consider you for those posts.

Please refer to the Home Office website if you require further information on their work permit procedure/requirements at <http://www.ukba.homeoffice.gov.uk/workingintheuk/> or telephone 0114 207 4074 (the general enquiries line is open from 09.00 to 17.00, Monday to Friday, excluding public holidays.)

Completing the application form:

Your application will be judged solely on the basis of how your skills and experience match the requirements of the post, which are detailed in these further particulars. We are happy to consider transferable skills or experience which you may have gained outside the context of paid employment or education.

On-line Applications:

You can apply online at <http://www.sruc.ac.uk/jobs>

In order to apply on-line you will need to register your details/create an account to be able to access the current vacancies and submit an electronic application.

All Applications:

References should be quoted in all communications:
Research Fellow- Data Science: **ASWF/AGR/007/22**

Closing date: 23 October 2022

How will the information on the forms be used?

The information collected on the equal opportunities monitoring form does **not** form part of the selection process and will not be circulated to the selection panel. It will be used solely to monitor the effectiveness of SRUC's equal opportunities policy.

Your application form will be circulated to the selection panel. They will use this information to assess your suitability for the post against the selection criteria. If appointed, your application will be retained on your confidential personnel file. If you are unsuccessful, your application will be retained for six months and then disposed of securely.

At all times the information will be held securely in accordance with the terms of the Data Protection Act 1998.

INTERVIEWS

Interviews:

Candidates selected for interview will be informed in writing.

Additional Interview Requirements:

You will be asked at a later stage whether you need us to make any adjustments for the interview.

If you wish to discuss any concerns about the application process and scheduling in this respect, please contact Human Resources at recruitment.team@sruc.ac.uk.

Candidates who are invited for interview will be required to provide proof of their eligibility to work in the UK by producing verifiable documents. Details of the required documents will be sent to those candidates who are invited for interview and the relevant original documents must be brought along to the interview for checking and copying.

DISCLAIMER

These particulars are issued by Human Resources, SRUC, Edinburgh. They are intended to represent a description of the duties at the time of writing, although this accuracy cannot be guaranteed. SRUC reserves the right to vary these particulars or make no appointment at all. Neither in part nor in whole do these particulars form any contract between SRUC and any individual.

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