



Job title	Research Associate/Fellow in Machine Learning and Data Science	Job family and level	Research & Teaching Level 4 (Appointment will be Level 4 Career Training Grade where an appointment is made before PhD has been completed)
School/ Department	Veterinary Medicine and Science	Location	Sutton Bonington

Purpose of role

To work on a BBSRC-funded collaborative project between the University of Nottingham and University of Leicester on the use of machine learning and data science to develop a new treatment for the control of Salmonella infections using bacteriophages. The appointee will work with an existing project team of two research fellows to model bacteriophage interactions with their hosts and use machine learning to develop tools to predict phage-host interactions in complex environments. The appointee will also work with a team of computer scientists at Vienna University of Technology to develop approaches or methodologies and techniques appropriate to this type of research. They will be responsible for writing up their work for publication as well as presenting results at national and international conferences. The appointee will have the opportunity to use their initiative and creativity to identify areas for research, develop research methods and extend their research portfolio.

	Main responsibilities (Primary accountabilities and responsibilities expected to fulfil the role)	% time per year
1	Improving, applying and evaluating machine learning algorithms for structured data (strings/sequences)	70 %
2	Making significant contributions to authoring articles for submission to peer-reviewed high impact academic journals.	10 %
3	Preparation and delivery of reports and presentations of research findings to research collaborators and external organisations.	5 %
4	To develop research objectives and proposals for own and/or collaborative research area.	5 %
5	To build relationships with both internal and external contacts in order to exchange information, to form relationships for future collaborations and identify potential sources of funds and/or opportunities for collaboration.	5 %
6	To provide support, guidance and supervision to other staff, where appropriate in own area of expertise.	5 %

Person specification

	Essential	Desirable
Skills	<ul style="list-style-type: none"> ▪ Excellent oral and written communication skills, including the ability to communicate with clarity on complex information. ▪ Ability to creatively apply relevant research approaches, models, techniques and methods. ▪ Ability to assess and organise resource requirements and deploy effectively. ▪ Ability to build relationships and collaborate with others, both internally and externally. 	
Knowledge and experience	<ul style="list-style-type: none"> ▪ Good programming skills and experience in at least one programming language suitable for machine learning (eg Julia, Python, R) ▪ Good knowledge of machine learning (including theory), computer science, mathematics (including statistics). ▪ Evidence of significant input into applied machine learning projects. 	<ul style="list-style-type: none"> ▪ Experience with applying machine learning algorithms to structured data. ▪ Expertise in the use of machine learning and advanced statistical modelling for the analysis of genomic or metagenomic data. ▪ Experience of working in a multidisciplinary team ▪ Evidence of using machine learning in biological applications. ▪ Experience of developing new approaches, models, techniques or methods in research area.
Qualifications, certification and training (relevant to role)	<ul style="list-style-type: none"> ▪ PhD in (or close to submission) in Machine Learning, Data Science, Bioinformatics, Applied Mathematics, Applied Statistics or a related field. 	
Statutory, legal or special requirements	<ul style="list-style-type: none"> ▪ Satisfactory standard disclosure obtained from the Disclosure and Barring Service. 	



As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those whose protected characteristics under the Equality Act 2010, are not well-represented in our current staff body.



The University is a signatory of the Declaration on Research Assessment (DORA). As such we commit to focus on the scientific content of publications (where requested or provided as part of the recruitment and selection process) as a basis for review of quality, and consideration of value and impact of research conducted, rather than any proxy measures such as Journal Impact Factor.

Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

Key relationships with others

