

(1) DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS

(2) UNIVERSITY OF NEWCASTLE UPON TYNE

(3) ENVIRONMENT AGENCY

PhD Studentship – [REDACTED]

**Quantifying Environmental Antibiotic Resistance (AR) Exposures And Drivers Over
Space and Time Across The United Kingdom**

Agreement No Project 27669

PhD STUDENTSHIP FUNDING AGREEMENT

THIS AGREEMENT is made on 23rd September 2019

BETWEEN:-

- (1) **THE DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS (DEFRA)**, whose registered office is situated at Nobel House, London SW1P 3JR ("the Authority"); and;
- (2) **UNIVERSITY OF NEWCASTLE UPON TYNE**, WHOSE PRINCIPAL ADMINISTRATIVE OFFICES ARE AT **KING'S GATE, NEWCASTLE UPON TYNE, NE1 7RU** ("the University").
- (3) **THE ENVIRONMENT AGENCY (EA)** WHOSE PRINCIPAL OFFICE IS AT **HORIZON HOUSE, DEANERY ROAD, BRISTOL, BS1 5AH**

TOGETHER: "THE PARTIES".

BACKGROUND

- (A) This Agreement sets out the terms under which the Parties will cooperate in a PhD Studentship entitled 'Quantifying environmental antibiotic resistance (AR) exposures and drivers over space and time across the United Kingdom' as described in Schedule 1 (Project Scope).

1. DEFINITIONS

- 1.1 In this Agreement (reference to which shall include the attached Schedules) the following words and expressions shall have the meanings given to them below, unless the context requires otherwise:-

"Academic Supervisor" means the University representative appointed as the PhD Student's supervisor as detailed in Schedule 1;

"Authorised Officers" means:

- For the University: [REDACTED]
- For Defra: [REDACTED]
- For EA: [REDACTED]

Or such other persons as shall be nominated by each Party and notified to the other from time to time;

"Agreement" means this agreement;

"DEFRA Supervisor" means the DEFRA representative appointed as the PhD Student's supervisor, as detailed in Schedule 1;

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| “Arising IP” | means any Intellectual Property generated as a result of the Project including but not limited to Intellectual Property in the Project Outputs described in Schedule 1; |
| “Background Intellectual Property Rights (“Background IPRs”) | means any Intellectual Property developed by a Party prior to the start of this Agreement; |
| “Commencement Date” | means the date of this Agreement; |
| “Confidential Information” | means any information which has been designated as confidential by any Party in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) including information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person or trade secrets or Intellectual Property Rights of any Party and all personal data and sensitive personal data within the meaning of the Data Protection Act 1998 and the General Data Protection Regulation (Regulation (EU) 2016/679); |
| “Contracting Authority” | means a contracting authority within the meaning of regulation 3 of the Public Contracts Regulations 2015; |
| “Expiry Date” | means the date on which this Agreement expires, being 30 September 2023 unless this Agreement is otherwise extended or terminated in accordance with Clause 8; |
| “Funding Contributions” | means the funding contributions to be made by DEFRA and EA to the University in connection with this Agreement and as detailed at Schedule 2; |
| “Intellectual Property Rights (“IP”/IPRs”) | means patents, utility models, inventions, trademarks, service marks, logos, design rights (whether registrable or otherwise), applications for any of the foregoing, copyright, database rights, domain names, plant variety rights, Know-How, trade or business names, moral rights and other similar rights or obligations whether registrable or not in any country (including but not limited to the United Kingdom) and the right to sue for passing off; |

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| “Maintenance Fees” | means any maintenance fees payable to the PhD Student in accordance with the PhD Studentship; |
| “Co- Funder” | means DEFRA and EA whose terms and conditions are included in this Agreement; |
| “Principal Funder” | means Engineering and Physical Sciences Research Council |
| “Project” | means the project described in Schedule 1; |
| “Project Outputs” | means the outputs produced in the Project as described in Schedule 1; |
| "PhD Student" | means the PhD student nominated by the University for participation in the Project and accepted by DEFRA, as referred to in Schedule 1. |
| “PhD Studentship” | means the PhD studentship undertaken by the Student in respect of the Project covered by this Agreement; |
| “Term” | means the term of this Agreement, beginning on the Commencement Date and ending on the Expiry Date unless otherwise terminated or extended in accordance with the terms of this Agreement in accordance with Clause 8; |

1.2 Words imparting the singular number shall include the plural and vice versa, words imparting the masculine shall include the feminine and neuter and vice versa, and words imparting persons shall include corporate bodies, unincorporated associations and partnerships.

1.3 Headings to Clauses and paragraphs are for ease of reference only and shall not affect the interpretation or construction of this Agreement.

1.4 References in this Agreement to any statute or statutory provision include reference to the same as amended, modified, re-enacted or replaced from time to time, whether before or after the date of this Agreement.

2. **PROJECT SCOPE**

2.1 The scope of the Project is as defined in Schedule 1.

2.2 Any modifications to the Project shall be subject to the prior written approval of DEFRA, EA and the University, acting by their Authorised Officers.

3. RESPONSIBILITIES OF THE PARTIES

- 3.1 The Parties agree to use reasonable endeavours to perform their obligations under this Agreement and carry out the Project diligently in accordance with Schedule 1.
- 3.2 The University agrees to provide the laboratories, computers and other equipment required for the performance of the Project and further agrees to appoint:
- 3.2.1 the PhD Student who shall work mainly at the University for the duration of the Project; and
- 3.2.2 the Academic Supervisor who will be based at the University and who shall be responsible for supervising the performance of the University's obligations and the PhD Student's activities pursuant to this Agreement.
- 3.3 The University shall use reasonable endeavours to ensure the PhD Student appointed to work on the Project has adequate knowledge, expertise, qualifications and necessary ability to undertake the Project and the University shall further be responsible for ensuring that the PhD Student and all other employees of the University who are at any time associated or engaged with or in the Project, shall comply with all applicable obligations in this Agreement as though Parties to this Agreement.
- 3.4 If the PhD Student and/or the Academic Supervisor are unwilling or cease to be available to work on the Project, the University shall notify DEFRA in writing and use reasonable endeavours to find replacements that are acceptable to DEFRA. In the event that a suitable replacement cannot be found, DEFRA shall be entitled to terminate the Agreement in accordance with Clause 8.2.2.
- 3.5 The University shall keep DEFRA informed of the progress of the Project, via the Academic Supervisor and the PhD Student, at meetings held at intervals of not more than six (6) months, or as otherwise agreed by the University and DEFRA. At the reasonable request of DEFRA, the University, through the Academic Supervisor and the PhD Student, shall supplement information provided in the meetings with written reports. The cost of attending such meetings shall be borne by each Party.
- 3.6 The University shall provide DEFRA with a copy of the Project Outputs and where applicable, a bound copy of any thesis prepared by the PhD Student on the Project (the "Thesis").
- 3.7 In the event that the PhD Student is required to work on DEFRA's premises, DEFRA agrees to provide the PhD Student with such training, further materials and support including but not limited to access to laboratories, computers and other equipment required for the performance of the Project.

PHD STUDENT FAILURE TO MAKE SATISFACTORY PROGRESS / STUDENT SUSPENSION

3.8 In the event that DEFRA is dissatisfied with the progress being made on the Project, all Parties shall use all reasonable endeavours to discuss the issues and agree a remedial course of action to enable the PhD Studentship to continue. In the event that the Parties agree that successful completion of the Project is impossible, the Parties may agree to terminate this Agreement in accordance with Clause 8.1.

3.9 Should the PhD Student fail to sustain the PhD Studentship for whatever reason through an extended period of absence (1 month or more), DEFRA and EA shall be entitled to suspend Funding Contributions otherwise due to the University under Clause 4 and DEFRA and the University will investigate whether the PhD Student is willing and able to recommence the PhD Studentship. In the event that the PhD Student is able to recommence the PhD Studentship, Funding Contributions will be resumed effective from the date of resumption. In the event that the PhD Student is unable to return to the PhD Studentship, he/she will be deemed to have resigned from the PhD Studentship and DEFRA and EA shall be entitled to terminate the Agreement under Clause 8.4.

4. FUNDING CONTRIBUTIONS

4.1 In consideration of the University performing its obligations under this Agreement, DEFRA and EA agree to make the Funding Contributions to the University in respect of the Project, on the dates and in the amounts set out in Schedule 2 to this Agreement.

4.2 DEFRA shall if required, reimburse the amount of expenses reasonably and properly incurred by the Student in the performance of their studies during the course of the Project, such as, but not limited to travel costs on official business, either at cost or at DEFRA rates subject to production of evidence of such expenses as DEFRA may reasonably require.

5. INTELLECTUAL PROPERTY RIGHTS

5.1 All Background Intellectual Property Rights introduced to this Project will remain vested in the Party introducing them, and will be licensed non-exclusively on a royalty-free basis to the other Party for the purpose of delivering the Project.

5.2 The University shall procure from the PhD Student or any person working on the subject matter of the Project who is not a direct employee of the University an assignment of any Intellectual Property Rights which they create during the continuance of this Agreement and pertaining to its subject matter whether or not such Intellectual Property Rights are capable of being protected by letters patent or other similar protection.

5.3 Each Party will own any IP created/invented solely by its own employees whereas IP created/invented jointly whether by staff from either Party and/or by the PhD Student shall be treated as set out at 5.4 below.

5.4 Ownership of any IP created jointly by the Parties during the Term of in the course of this Agreement, will be equally vested in all Parties except where specifically agreed to the contrary by separate agreement in writing by the

Parties' duly Authorised Officers. In order to protect any such rights, all Parties agree to fully co-operate and subject to Clause 5.5, to equally bear the cost of obtaining appropriate legal protection for such rights and seeking any necessary formal registration. Each Party will maintain all appropriate records in order to support the making of any application to obtain formal patent rights or other formal protection of Intellectual Property.

5.5 Before any registration or commercialisation of any jointly owned IP takes place, the Parties will agree by separate agreement treatment of issues such as which Party shall be responsible for obtaining legal protection, sharing of registration costs, exploitation rights and revenue sharing.

5.6 Each Party will have a paid up non-exclusive licence to use all IP created through the Project (whether jointly owned or solely owned by one or other Parties) for non-commercial research, academic teaching and government use purposes only.

6. **CONFIDENTIALITY**

6.1 Except to the extent set out in this Clause 6 or where disclosure or publication is expressly permitted elsewhere in the Agreement each Party shall treat all Confidential Information belonging to the other Parties as confidential and shall not disclose any Confidential Information belonging to the other Parties to any other person without the other Parties consent, except to such persons and to such extent as may be necessary for the performance of the Parties obligations under the Agreement.

6.2 The University hereby gives its consent for DEFRA to publish the whole Agreement (subject to redaction of any Confidential Information belonging to the University or to DEFRA) including from time to time agreed changes to the Agreement, to the general public.

6.3 The University may only disclose DEFRA's Confidential Information to the PhD Student, its employees and third Parties who need to know the Confidential Information and who are directly involved in the funding, delivery and execution of the Project and shall ensure that they are aware of and shall comply with the obligations in this Clause 6 as to confidentiality.

6.4 Clause 6.1 shall not apply to the extent that:

- (a) the disclosure is a requirement of law placed upon the Party making the disclosure, including any requirements for disclosure under the FOIA or the EIR or pursuant to a regulation or in accordance with an order or direction of a court;
- (b) the information was in the possession of the Party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;
- (c) the information was obtained from a third Party without obligation of confidentiality;
- (d) the information was already in the public domain at the time of disclosure otherwise than by a breach of the Agreement; or

- (e) the information is independently developed without access to the other Party's Confidential Information.

6.5 Nothing in Clause 6.1 shall prevent DEFRA disclosing any Confidential Information obtained from the University:

- (a) for the purpose of the examination and certification of DEFRA's accounts;
- (b) for the purpose of any examination pursuant to section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which DEFRA has used its resources;
- (c) to any Crown Body or any Contracting Authority and the University hereby acknowledges that all government departments or Contracting Authorities receiving such Confidential Information may further disclose the Confidential Information to other government departments or other Contracting Authorities on the basis that the information is confidential and is not to be disclosed to a third Party which is not part of any government department or any Contracting Authority;
- (d) to any consultant, contractor or other person engaged by DEFRA,

provided that in disclosing information under Clauses 6.5 (c) and (d) DEFRA discloses only the information which is necessary for the purpose concerned and requests that the information is treated in confidence and that a confidentiality undertaking is given where appropriate.

6.6 Nothing in this Clause 6 shall prevent any Party from using any techniques, ideas or know-how gained during the performance of its obligations under the Agreement in the course of its normal business, to the extent that this does not result in a disclosure of the other Parties Confidential Information or an infringement of the other Parties Intellectual Property Rights.

7. PUBLICATION

7.1 In accordance with normal academic practice, all employees, students, agents or appointees of the University (including the PhD Student and any others who work on the Project) may, following the procedures laid down in Clause 7.2, publish Arising IP or discuss Arising IP in internal seminars, and to give instructions within the University on questions related to such work.

7.2 Subject to any conditions imposed on publication by the Principal Funder, in respect of which neither the University nor DEFRA shall be liable, all proposed publications (including, but not limited to, scientific publications, patent applications and non-confidential presentations and the Thesis, prior to submission by the PhD Student), shall be submitted in writing to DEFRA and the University for review at least thirty (30) days before submission for publication or before presentation, as the case may be. The reviewing Party may require the deletion from the publication of any Background IP of the reviewing Party, or an amendment to the publication through which Background IP which is commercially sensitive or constitutes Confidential Information is disguised to the satisfaction of the reviewing Party. The reviewing Party may also request the delay of the publication if in the reviewing Party's opinion the delay is necessary in order to seek patent or similar protection to Arising IP

owned by the reviewing Party. Any delay imposed on publication shall not last longer than is reasonably necessary for the reviewing Party to obtain the required protection; and shall not exceed six (6) months from the date of receipt of the proposed publication by the reviewing Party. Notification of the requirement for delay in publication must be received by the publishing Party within thirty (30) days after receipt of the proposed publication by the reviewing Party, failing which the publishing Party shall be free to assume that the reviewing Party has no objection to the proposed publication.

7.3 The University agrees that any publication in a scientific/academic journal shall give due acknowledgement to the financial and/or intellectual contribution of DEFRA and EA in accordance with standard scientific practice.

7.4 DEFRA acknowledges that this Project entails the University carrying out its primary purpose of the advancement of education through teaching and research, and that accordingly, the PhD Student may, subject to the provisions of Clause 7.1, use or publish the results of the Project for internal teaching, learning and research purposes.

8. TERM AND TERMINATION

8.1 This Agreement shall begin on the Commencement Date and shall continue in force until the Expiry Date unless terminated or extended by mutual written agreement of the Parties, or otherwise terminated in accordance with this Clause 8.

8.2 Either Party shall be entitled to terminate this Agreement on one (1) month's written notice to the other in the event that:

8.2.1 the Principal Funder withdraws or materially reduces its financial or other support for the Project; or

8.2.2 A suitable PhD Student or Academic Supervisor, or where Clause 3.4 applies, suitable replacements, cannot be found.

8.3 Either Party may terminate the Agreement with immediate effect by notice if the other Parties commit a material breach of the Agreement and:

(a) has not remedied the breach to the satisfaction of the Party complaining of the breach within thirty [30] working days or such other period as may be specified by the Party complaining, after issue of a notice specifying the nature of the breach and requesting it to be remedied; or

(b) if the breach is not, in the opinion of the Party complaining, capable of remedy.

8.4 DEFRA shall in addition be entitled to terminate the Agreement on written notice with immediate effect, in the event that the PhD Student resigns from the PhD Studentship.

9. CONSEQUENCES OF TERMINATION

- 9.1 Termination of this Agreement for any reason shall be without prejudice to the rights and obligations of the Parties accruing up to and including the date of termination and shall not affect the continuing rights and obligations of the Parties under in particular but not limited Clauses 4, 5, 6, 7, and 10.
- 9.2 The University shall, and shall use reasonable endeavours to procure that any PhD Student shall upon termination of this Agreement or immediately at the request of DEFRA deliver up to DEFRA all reports, correspondence, documents, specifications, papers, information in and property belonging to or concerning DEFRA or any aspect of its or their business.
- 9.3 In the event that the Agreement is terminated before the Expiry Date, the University shall repay to DEFRA and EA, the sum of the Fees less the pro rata share which should have been paid to the PhD Student prior to the date of termination (calculated on the basis that maintenance is payable to the PhD Student quarterly in advance).
- 9.4 Subject to satisfactory evidence provided to DEFRA, the University shall be entitled to submit a final claim within four (4) weeks of the Expiry Date or other termination date of this Agreement, for any costs reasonably and properly incurred on the Project. For the avoidance of doubt, the University may also claim costs that it is legally bound to pay after the Expiry Date or other termination date which have been properly incurred before the date on which it is notified, or received notification of, the termination of the Agreement, but such costs shall not include any redundancy payments or any other payments by way of compensation.

10. LIABILITY AND INDEMNITY

- 10.1 Neither Party limits its liability for:
- (a) Death or personal injury caused by its negligence;
 - (b) Fraud or fraudulent misrepresentation;
 - (c) Any breach of any obligations implied by section 12 of the Sale of Goods Act 1979 or section 2 of the Supply of Goods and Services Act 1982; or
 - (e) Any liability to the extent it cannot be limited or excluded by law.
- 10.2 Neither Party shall be liable to the other for any loss of business or profit or any indirect, economic or consequential damages or losses arising as a result of any breach of this Agreement.
- 10.3 The University shall indemnify DEFRA and EA against any and all costs, expenses, loss, damage and claims arising as a direct result of negligent acts and omissions of its employees, appointees and PhD Student and any material breach of this Agreement by the University.
- 10.4 For the avoidance of doubt, subject to Clause 10.1, the University's liability under this Agreement shall not exceed four times the value of the Funding Contributions paid by DEFRA and EA to the University as detailed in Schedule 2.

11. **THIRD PARTY RIGHTS**

A person who is not a Party to the Agreement shall have no right to enforce any of its provisions which, expressly or by implication, confer a benefit on him, without the prior written agreement of all Parties. This Clause does not affect any right or remedy of any person which exists or is available apart from the Contracts (Rights of Third Parties) Act 1999 and does not apply to the Crown.

12. **STATUS OF AGREEMENT**

This Agreement does not constitute a partnership between DEFRA, EA and the University and neither DEFRA, EA nor the University is authorised to act as agent for the other. Nothing in this Agreement shall deem the PhD Student to be an employee of DEFRA or the EA.

13. **NOTICES**

Any or other communications under or in connection with this Agreement shall be in writing and notice shall be delivered personally or sent by pre-paid registered or recorded delivery post or by facsimile or other electronic media, to the Parties intended to receive the notice at the address set out in this Agreement or such other address as the Parties may notify in writing. Any notice or other communications shall be deemed to have been served if delivered personally, when left at the Parties address, if sent by post, 48 hours after posting it, if sent by facsimile or other electronic media, when clearly received in full provided that a copy of the notice of communication is also put into the post within 24 hours following despatch of the initial version.

14. **BRIBERY AND CORRUPTION**

The Parties shall comply with all applicable laws, statutes, regulations and codes relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010 and not engage in any activity, practice or conduct which would constitute an offence under the Bribery Act 2010 if such activity practice or conduct had been carried out in the UK.

15. **SEVERABILITY**

If and in so far as any part or provision of this Agreement is or becomes void or unenforceable it shall be deemed not to be or never to have been or formed a part of this Agreement and the remaining provisions of this Agreement shall continue in full force and effect. The Parties shall meet to discuss in good faith the void and unenforceable provisions and shall substitute therefore a lawful and enforceable provision which so far as possible results in the same economic effects.

16. **ENTIRE AGREEMENT**

This Agreement represents the entire understanding between the Parties and supersedes any and all previous understandings written, oral and implied with respect to the subject matter of this Agreement.

17. **VARIATION**

All variations or modifications to this Agreement will only be binding if recorded in writing and signed by the Authorised Officers of the Parties.

18. **ASSIGNMENT**

This Agreement is for the personal services of the University, its PhD Student and the Academic Supervisor and the University shall not transfer assign or delegate the whole or any part of its obligations under this Agreement.

19. **GOVERNING LAW AND JURISDICTION**

This Agreement shall be governed by and construed in all respects according to the laws of England and Wales and the Parties hereby submit to the exclusive jurisdiction of the English courts in all matters relating to this Agreement.

20. **PROTECTION OF PERSONAL DATA AND SECURITY OF DATA**

20.1. The Parties acknowledge that for the purposes of the Data Protection Legislation, the Customer (Defra) is the Controller and the Contractor (the University) is the Processor unless otherwise specified in Schedule 3. The only processing that the Contractor is authorised to do is listed in Schedule 3 by the Customer and may not be determined by the Contractor.

20.2. The Contractor shall notify the Customer immediately if it considers that any of the Customer's instructions infringe the Data Protection Legislation.

20.3. The Contractor shall provide all reasonable assistance to the Customer in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Customer, include:

- a. a systematic description of the envisaged processing operations and the purpose of the processing;
- b. an assessment of the necessity and proportionality of the processing operations in relation to the Services;
- c. an assessment of the risks to the rights and freedoms of Data Subjects; and
- d. the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

20.4. The Contractor shall, in relation to any Personal Data processed in connection with its obligations under this Agreement:

- a. process that Personal Data only in accordance with Schedule 3 unless the Contractor is required to do otherwise by Law. If it is so required the Contractor shall promptly notify the Customer before processing the Personal Data unless prohibited by Law;
- b. ensure that it has in place Protective Measures which are appropriate to protect against a Data Loss Event, which the Customer may reasonably reject (but failure to reject shall not amount to approval by the Customer of the adequacy of the Protective Measures), having taken account of the:
 - i. nature of the data to be protected;
 - ii. harm that might result from a Data Loss Event;
 - iii. state of technological development; and
 - iv. cost of implementing any measures;
- c. ensure that:
 - i. the Staff do not process Personal Data except in accordance with this Agreement (and in particular Schedule 3);
 - ii. it takes all reasonable steps to ensure the reliability and integrity of any Staff who have access to the Personal Data and ensure that they:
 1. are aware of and comply with the Contractor's duties under this clause;
 2. are subject to appropriate confidentiality undertakings with the Contractor or any Sub-processor;
 3. are informed of the confidential nature of the Personal Data and do not publish, disclose or divulge any of the Personal Data to any third party unless directed in writing to do so by the Customer or as otherwise permitted by this Agreement; and
 4. have undergone adequate training in the use, care, protection and handling of Personal Data; and
- d. not transfer Personal Data outside of the European Union unless the prior written consent of the Customer has been obtained and the following conditions are fulfilled:
 - i. the Customer or the Contractor has provided appropriate safeguards in relation to the transfer (whether in accordance with the General Data Protection Regulations (GDPR) Article 46 or LED Article 37) as determined by the Customer;
 - ii. the Data Subject has enforceable rights and effective legal remedies;

- iii. the Contractor complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the Customer in meeting its obligations); and
 - iv. the Contractor complies with any reasonable instructions notified to it in advance by the Customer with respect to the processing of the Personal Data;
 - e. at the written direction of the Customer, delete or return Personal Data (and any copies of it) to the Customer on termination of the Agreement unless the Contractor is required by Law to retain the Personal Data.
- 20.5. Subject to clause 20.6 the Contractor shall notify the Customer immediately if, in relation to any Personal Data processed in connection with its obligations under this Agreement, it:
- a. receives a Data Subject Request (or purported Data Subject Request);
 - b. receives a request to rectify, block or erase any Personal Data;
 - c. receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;
 - d. receives any communication from the Information Commissioner or any other regulatory authority;
 - e. receives a request from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law; or
 - f. becomes aware of a Data Loss Event.
- 20.6. The Contractor's obligation to notify under clause 20.5 shall include the provision of further information to the Customer in phases, as details become available.
- 20.7. Taking into account the nature of the processing, the Contractor shall provide the Customer with full assistance in relation to either Party's obligations under Data Protection Legislation in relation to any Personal Data processed in connection with its obligations under this Agreement and any complaint, communication or request made under Clause 20.5 (and insofar as possible within the timescales reasonably required by the Customer) including by promptly providing:
- a. the Customer with full details and copies of the complaint, communication or request;
 - b. such assistance as is reasonably requested by the Customer to enable the Customer to comply with a Data Subject Request within the relevant timescales set out in the Data Protection Legislation;

- c. the Customer, at its request, with any Personal Data it holds in relation to a Data Subject;
- d. assistance as requested by the Customer following any Data Loss Event;
- e. assistance as requested by the Customer with respect to any request from the Information Commissioner's Office, or any consultation by the Customer with the Information Commissioner's Office.

20.8. The Contractor shall maintain complete and accurate records and information to demonstrate its compliance with this clause 20. This requirement does not apply where the Contractor employs fewer than 250 staff, unless:

- a. the Customer determines that the processing is not occasional;
- b. the Customer determines the processing includes special categories of data as referred to in Article 9 (1) of the GDPR or Personal Data relating to criminal convictions and offences referred to in Article 10 of the GDPR; or
- c. the Customer determines that the processing is likely to result in a risk to the rights and freedoms of Data Subjects.

20.9. The Contractor shall allow for audits of its Personal Data processing activity by the Customer or the Customer's designated auditor.

20.10. Each Party shall designate its own Data Protection Officer if required by the Data Protection Legislation.

20.11. Before allowing any Sub-processor to process any Personal Data related to this Agreement, the Contractor must:

- a. notify the Customer in writing of the intended Sub-processor and processing;
- b. obtain the written consent of the Customer;
- c. enter into a written agreement with the Sub-processor which give effect to the terms set out in this clause 20 such that they apply to the Sub-processor; and
- d. provide the Customer with such information regarding the Sub-processor as the Customer may reasonably require.

20.12. The Contractor shall remain fully liable for all acts or omissions of any of its Sub-processors.

20.13. The Customer may, at any time on not less than 30 Working Days' notice, revise this clause by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to this Agreement).

- 20.14. The Parties agree to take account of any non-mandatory guidance issued by the Information Commissioner's Office. The Customer may on not less than 30 Working Days' notice to the Contractor amend this Agreement to ensure that it complies with any guidance issued by the Information Commissioner's Officer.
- 20.15. When handling Customer data (whether or not Personal Data), the Contractor shall ensure the security of the data is maintained in line with the security requirements of the Customer as notified to the Contractor from time to time.
- 20.16. This clause 20 shall apply during the Term and indefinitely after its expiry.

SCHEDULES

SCHEDULE 1 – PROJECT SCOPE

PROJECT TITLE: Quantifying environmental antibiotic resistance (AR) exposures and drivers over space and time across the United Kingdom

OVERVIEW

Soils around the world have become major sinks for the genetic potential of human-driven acquired antibiotic resistance (AR), which creates global exposures to AR in resident human and other animal populations. Environmental exposures originate from inadequate wastewater treatment and pollution, often in the developing world, which migrate internationally in exposed humans and wildlife to and from such locations. We recently showed this has reached the High Arctic by quantifying differences in AR gene abundances between pristine soils and wildlife and human-impacted soils in Svalbard (McCann et al. 2019). These data show AR has no boundaries, how AR might be spreading and that soils may provide a sentinel for exposure.

The student will develop this work by sampling soils in three broad locations in the UK with contrasting levels of local wastewater and other pollution exposure (all sites guided by EA), including paired “impacted” and “control” sub-locations. The student will use differences between locally “impacted” and “pseudo-pristine” soil clusters as sentinels for AR spread within the UK, and compare UK soils with Arctic soils to assess the value of less-impacted UK sites as “controls” for UK exposure assessments.

Resulting data and analysis will guide the EA on possible mitigation targets to help satisfy the UK Government’s 20 Year Vision and 5 Year AMR National Action Plan (UK DHSC, 2019) aimed at quantifying AR risk from environment sources across the UK.

METHODOLOGY

Using data from UK soil samples, existing Arctic and Northumberland data, and soil replicate sampling, the student will perform detailed and comparative geochemistry, microbiomics (including high-throughput Quantitative Polymerase Chain Reaction and Deoxyribonucleic Acid sequencing) and resistomics on all samples (see examples in Gray et al. 2014; McCann et al. 2016).

The student will perform comparative statistical analyses to bridge possible sources, sinks, rates and pathways of AR spread. Of particular novelty will be using Source Tracking software that allows one to statistically predict the relative contribution of difference pollution sources on the local resistome.

All methods on this project already exist and are in use in other projects, ranging from international studies of AR exposure in India and Malaysia to specific studies on UK wastewater treatment plants in Northumberland and in the London area. These additional data will be available to the student to enrich their comparative analysis.

IMPACT

This project will almost certainly have huge impact, both on an academic level, but also on policy development. Given the student will be working at EA sites, results and work will be performed with EA experts, including getting feedback. The ultimate goal is to combine data from this and previous studies to provide guidance on a more unified AR risk framework for the UK (i.e., UK DHSC, 2019). Given the massive media response to our previous work, including in stories in the The Guardian, Times, Wall Street Journal, and Newsweek (<https://www.newsweek.com/antibiotic-resistant-superbug-genes-arctic-india-last-resort-1311741>), we strongly suspect new work here will have great public and policy impact.

SPECIFIC OUTPUTS

Specific outputs will include:

1. A report (except at the end of the 4th year where the thesis will constitute a final project report) and a 1 or 2 page summary document at the end of each year of work is the minimum requirement.
2. The PhD student will give a seminar of the project findings to the DEFRA group. This will be hosted by Defra in London and to an audience of policy and evidence professionals invited from Defra and its agencies. Timing of this to be agreed in line with project findings and results.

NAMES OF PHD STUDENT AND SUPERVISORS

PhD Student: [REDACTED]

Defra Supervisor: [REDACTED]

EA Supervisor: [REDACTED]

University of Newcastle Supervisor: [REDACTED]

SCHEDULE 2 – FUNDING CONTRIBUTIONS AND PAYMENT SCHEDULE

- 1) DEFRA agrees to pay the University of Newcastle the Fixed Price of £17,000.00 in accordance with the stage payment scheme detailed below.

| Stage | Period | Invoice Date | Description | Amount |
|---------------|----------------------|----------------|--|-------------------|
| 1. | Financial Year 19/20 | September 2019 | In accordance with the Requirements at Schedule 1. | ██████████ |
| 2. | Financial Year 20/21 | April 2020 | As above. | ██████████ |
| 3. | Financial Year 21/22 | April 2021 | As above. | ██████████ |
| Total: | | | | £17,000.00 |

- 2) EA agrees to pay the University of Newcastle the Fixed Price of £3,000.00 in accordance with the stage payment scheme detailed below.

| Stage | Period | Invoice Date | Description | Amount |
|---------------|----------------------|----------------|--|------------------|
| 1. | Financial Year 19/20 | September 2019 | In accordance with the Requirements at Schedule 1. | ██████████ |
| 2. | Financial Year 20/21 | April 2020 | As above. | ██████████ |
| 3. | Financial Year 21/22 | April 2021 | As above. | ██████████ |
| Total: | | | | £3,000.00 |

In addition to above, ██████████ will contribute 5-10 days per year, in kind for the duration of the Agreement.

Please Note: In the event that DEFRA is dissatisfied with the progress being made on the Project, in accordance with clauses 4.1, 4.2 and 9, to protect the Authority's funding the University will refund the balance of any remaining funding in accordance with the pricing schedule.

It is agreed that payment for Stage 1 can be made on acceptance of this Agreement and submission of the appropriate invoice(s).

SCHEDULE 3 - PROCESSING, PERSONAL DATA AND DATA SUBJECTS

1. The contact details of the Authority Data Protection Officer are:
dgc.gdpr@defra.gov.uk
2. The contact details of the Contractor Data Protection Officer are:
3. [REDACTED]
4. The Contractor shall comply with any further written instructions with respect to processing by the Authority.
5. Any such further instructions shall be incorporated into this Schedule.

| Data Processing descriptor | Narrative |
|---|--|
| Subject matter of the processing | Processing personal data in relation to employees and students. |
| Duration of the processing | 23/09/2019 – 30/09/2023. Process personal data for the duration of this Agreement and thereafter to complete PhD studentship related activities. |
| Nature and purposes of the processing | To enable a PhD studentship to be completed as specified and to undertake any related activities for the studentship. |
| Type of Personal Data | Names & addresses, Date of Birth. Information relating to education, previous employment and employers. National Insurance number. Email addresses. Data contained in Disclosure and Barring Service |
| Categories of Data Subject | The PhD Student and any employees of the University involved in the studentship, including the Academic Supervisor. |
| Plan for return and destruction of the data once the processing is complete | Data to be destroyed in accordance with each Parties data handling procedures. At the written direction of the Authority, delete or return Personal Data (and any copies of it) to the Authority on termination of the Contract unless the Contractor is required by Law to retain the Personal Data. |