UNIVERSITY OF CAMBRIDGE DAMTP GKB Laboratory		Biological Risk Assessment Form 5
		Dept Reference Number: BRA

Form version: BRA5-2019

Part A: Basic Biological Assessment

*You **must** complete this part of the form for all work with biological organisms. For some work, you may also need to complete Part B of this form.*

Containment Level assigned for this project	Containment Level ? (CL?) *(The containment level will be determined on a combination of the Hazard Group for the organisms and other risks and information provided by this form.)*

Section 1: Brief outline of work/activity:	**Project title:** ???Project title??? **Description:** ???Description???

Section 2: Location(s):	???Room number(s)???

Section 3: Equipment/ Consumables/ Material:	

Section 4: HAZARD IDENTIFICATION

List the organisms (whether alive, dead or tissues/organs).

(*For microorganisms and other similar materials, the ACDP hazard group classification of each; see http://www.hse.gov.uk/pubns/misc208.pdf*)

Organism(s)	UK Hazard Group	Classification
??Name of organism?? (*Provide information not only of the species/strain, but also the kingdom/phylum/class, as appropriate, to help identify the classification. Part B of this form must be completed if any of your organisms are Hazard Group 2 or higher.*)	HG?	?e.g. Bacteria/ algae/ invertebrate/ amphibian?

Are any of the organisms endangered? Yes/No

If 'yes', provide details and justification for their use.

The information required depends on the taxonomical classification of the organisms. Please complete all the relevant subsections below.

4.1 Microorganisms
(Complete this subsection if you are working with microorganisms)

a) Are you aware of the microorganism(s) having a higher hazard classification in other jurisdictions? Yes/No

If any of your organisms are HG2, or they are HG1 in the UK but have a higher classification elsewhere, you MUST complete Part B of this form.

b) Are your microorganisms animal or plant pathogens? Yes/No

If 'yes', you must determine whether the organism is "prohibited" in the UK – see the Animal and Plant Health Agency (APHA) for a list of prohibited organisms. ***Where the organism is prohibited, even if only Hazard Group 1, the work will need to be undertaken at Containment Level 2 and so you must complete Part B of this form.*** *It will also be necessary to obtain a licence from APHA.*

c) Are there any adverse environmental effects associated with the organism(s)? Yes/No

If 'yes', give details

(*Depending on the nature of the effect, it may be necessary to perform this work at Containment Level 2, in which case you will also need to complete Part B of this form.*)

d) Do your microorganisms produce toxins? Yes/No

If 'yes', you must include details in the section on Significant Biological Hazards.

4.2 Animals
(Complete this subsection if you are working with animals)

a) Are the animals covered by APHA rules? Yes/No

If 'yes', you must complete Part B.

b) Are the animals parasitic, venomous or produce an allergic response in humans? Yes/No

If 'yes', you must include details in the section on Significant Biological Hazards.

c) Are there any ethical considerations? Yes/No

Justify answer and give details, as appropriate:

(*Ethical approval may be required for work with some animals, especially vertebrates.*)

4.3 Plants
(Complete this subsection if you are working with plants)

a) Are the plants poisonous? Yes/No

If 'yes', you must include details in the section on Significant Biological Hazards.

b) Do the plants produce seeds? Yes/No *If 'yes', you need to consider the implications of this.*
c) Are the plants invasive? Yes/No *If 'yes', you need to consider their environmental impact.*

Section 5: Significant biological hazards	**1.** ??? **2.** ??? **3.** ???

Section 6: Other/non-biological hazards	**1.** ?? (*Include here risks directly related to dealing with the organisms, for example, risks associated with the use of disinfectant.*)

Section 7: Who might be exposed to the hazards (with reference to above)	**1. Biological hazards** ?? **2. Non-biological hazards** ?? (*Provide a list of the categories of personnel; "staff" is not sufficient.*)

Section 8: Existing control measures	(*Clicking on the boxes will add a check mark*) **Access control:** ☐ Access restricted to laboratory users ☐ Access only by a more restricted group (specify) **Protocols:** ☐ Good laboratory practice ☐ Disinfecting work area **Containment:** ☐ Containment Level 1 (CL1) Laboratory ☐ Containment Level 2 (CL2) Laboratory ☐ Fume Hood ☐ Microbiological Safety Cabinet (MSC); Class II (*Note: The laminar flow hood is not a containment device!*) **Personal Protective Equipment:** ☐ Lab coat/ overall

	☐ Lab coat (red colour for CL2 only) ☐ Gloves (Type: Kimtech Purple Nitrile) ☐ Gloves (Type: ……) ☐ Facemask ☐ Respirator (Type: ……..) **Eye protection:** ☐ Glasses ☐ Goggles ☐ Face shield

Section 9: Storage requirements	**1.** (*Provide details and, if appropriate, list any additional control measures that might be necessary.*)

Section 10: Local rules	**List any Local Rules and Standard Operating Procedures (SOP) that apply** (*Provide details and, if appropriate, list any additional control measures that might be necessary.*)

Section 11: Additional control measures	**1.** (*List any additional control measures that might be necessary. Where appropriate, this section may be left blank.*)

Section 12: Training, instructions, responsibilities	(*The level of detail required here should reflect the risks associated with the work.*)

Section 13: Waste Disposal and Decontamination	**Solid waste.** 1. **Liquid waste.** 2. **Decontamination and Cleaning of equipment.** 3.

Are risks adequately controlled?: ☐ YES / NO ☐

	Additional controls:	**Action by:**

If NO, list additional controls and actions required:		

Completed by:	***Name*** ***Signature*** ***Date***

Supervisor:	***Name*** ***Signature*** ***Date***

Biological Safety Officer:	***Name*** ***Signature*** ***Date***

Dates of review:	**Changes required? Yes/No**	**Reviewed by (name, sign, date)**

Part B: Pathogenic Organisms and those requiring CL2

You need not complete this part of the form if your organisms are universally considered Hazard Group 1 (HG1), are not plant or animal pathogens, have no significant adverse environmental effects and only require Containment Level 1 (CL1)

Containment Level assigned for this project	Containment Level ? (CL?) *(The containment level will be determined on a combination of the Hazard Group for the organisms and other risks and information provided by this form.)*

Project title	???Project title??? (*This should match the title used on Part A of this form.*)

Section 14: Reason(s) why CL2 should be considered	☐ Hazard Group 2 (HG2) organism ☐ Organism that is HG1 in the UK, but is assigned higher group elsewhere ☐ Plant or animal pathogen on APHA's "prohibited" list ☐ Has a licence from APHA been applied for? ☐ Has APHA issued a licence for this work? ☐ Adverse environmental impact ☐ Other (please specify)

Section 15: ADDITIONAL HAZARD IDENTIFICATION

Identify hazards:

a) List the micro-organisms, indicating for each the ACDP hazard group classification (see http://www.hse.gov.uk/pubns/misc208.pdf)**, APHA's classification and any environmental or other concerns, as appropriate:**

Micro-organism(s)

??Name of organism?? ??Hazard Group?? ???APHA??? ???Environmental??? ???Other???

(*If some of the organisms are HG1 with no other concerns, indicate these as HG1/CL1.*)

b) For organisms that have a higher hazard classification in other jurisdictions, provide details of that classification and the country where that is given. If you believe use of CL1 is appropriate, explain why the other classification is not relevant to your work.

c) Is there evidence the organism(s) can cause infection? Yes/No

If 'yes', give details:

If 'yes', identify potential route(s) of infection in the laboratory: *The most serious infection could occur if bacteria were to enter the blood stream through a cut/sharps injury or through unprotected/vulnerable skin (non-gloved hands, eczema on hand).*

Percutaneous	Inhalation	Ingestion	Splash in eyes or mouth

d) Describe any disease that may be caused: *(including symptoms, severity, routes of transmission, availability of vaccine, etc.)*

☐ N/A (no known disease/infection)

e) Are there any adverse environmental effects? Yes/No

If 'yes', give details relevant to determining the containment level required

f) Identify any particular groups of workers who may be at increased risk: *(for example pregnant workers, young persons under 18, those with pre-existing disease that increases susceptibility.)*

Anyone who might have compromised resistance to disease for any reason should seek advice from the University Occupational Health Service regarding the need for additional precautions.

g) Could a less hazardous organism/substance (or form of the substance) be used instead?

Section 16: Is monitoring required?	**Is monitoring required for Heath?:** Yes/No (Provide details, if appropriate)

(Health, environmental)	**Environment?** Yes/No (Provide details, if appropriate)

Section 17: Training, instructions, responsibilities	**Training:** **1.** . **Instructions:** **Responsibilities:** . **Permission to work:** (*Provide details of who and what. Note that training records must always be signed to confirm the training has been received and understood. Permissions to work must also always be signed.*)

Section 18: Emergency Procedures	**Good Microbiological Laboratory Practice should be adhered to when dealing with any emergency situation: change gloves frequently throughout dealing with the incident to avoid spreading of the contamination further.** **Disinfectants: 70% Ethanol is <u>NOT</u> suitable for dealing with spills or contaminations! Distel (suitable for metal and plastics) is preferable to Virkon. The latter is corrosive to metals upon exposure longer than 20 minutes. Virkon is not suitable for the decontamination of liquid waste destined for subsequent autoclaving due to the release of toxic gases.** **Distel should be used instead whenever necessary.**
	Who should be contacted for emergency advice? (*List more than one point of contact, if appropriate. Note: the BSO should be informed of any emergencies that arise.*)
	In case of spillage:
	Contamination of personnel: 1. ***Mouth, Eyes, Skin Exposure***: 2. ***Inhalation***: 3. ***Ingestion***: 4. ***If casualty unconscious***:

	Contamination of equipment:
	Other emergency:

Section 19: CL1 or CL2	**If appropriate, justify why this work can be carried out at CL1.** (*If using HG2 organisms, the work **must** be undertaken at CL2 and so this section should be left blank.*)

Are risks adequately controlled?: ☐ YES / NO ☐

	Additional controls:	**Action by:**
If NO, list additional controls and actions required:	.	

Completed by:	***Name*** ***Signature*** ***Date***

Supervisor:	***Name*** ***Signature*** ***Date***

Biological Safety Officer:	***Name*** ***Signature*** ***Date***

Biological Safety Subcommittee	
Containment Level	This work is approved for containment level ??
Comments	
Approved by Biological Safety Committee:	***Name*** ***Role*** ***Signature*** ***Date***

Dates of review:	Changes required? Yes/No	Reviewed by (name, sign, date)