

Animal Ethics: Beyond the Three Rs

UMS Animal Ethics Application - 1st Time Approval

"Today, we aren't just talking about paperwork. We are talking about the 'Beyond'—moving from basic compliance to world-class research integrity."

Speaker: Ts. Dr. Sylvia Daim

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IFBA Certified Professional in Biorisk Management

A Brief History of Animal Ethics – Evolution of Human Empathy

The Enlightenment

Descartes viewed animals as "beast-machines" with **no pain**, until Bentham's 1789 shift: "The question is... Can they suffer?"

Modern Day

A paradigm shift from basic "Welfare" (how we use them) to "Rights" (inherent value) and the recognition of **sentience**.

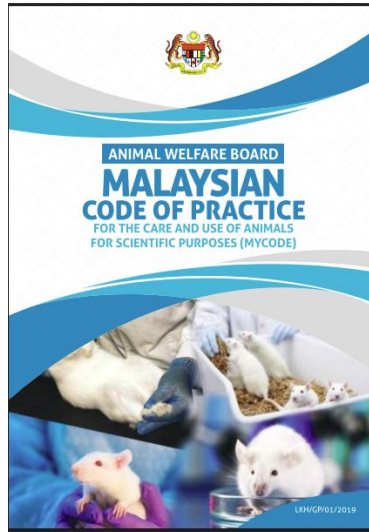
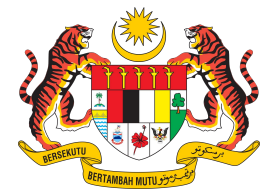
Antiquity

Pythagoras argued for kinship and souls, while Aristotle proposed a hierarchy based purely on utility.

1959 – The 3Rs

Russell and Burch officially codify the golden rules: **Replacement**, **Reduction**, and **Refinement**.

Animal Ethics in Malaysia & Sabah Context



2012: Code of Practice

The Malaysian Code of Practice officially mandates ethical clearance for all live vertebrate research.

Sabah & UMS Context

Protected Native Species require Sabah Wildlife Dept & SABC coordination. UMS adheres to the 2012 Code of Practice

1953: Animals Act

Provides the very first legal framework against animal cruelty in Malaysia.

2015: Welfare Act/Enactment

The Animal Welfare Act is passed, introducing strict licensing requirements for animal researchers.

The "Beyond" Philosophy at UMS

◆ The 3Rs (Baseline)

Minimum Standard

The absolute minimum standard for any application.

- Replacement, Reduction, and Refinement represent the foundational starting points.
- Achieving the 3Rs is mandatory, but it is no longer the final goal of ethical scientific pursuit.

✦ The "Beyond"

Focuses extensively on Scientific Validity (Section 3.7), Environmental Enrichment (Section 3.4), and a proactive Culture of Care (Section 4.8 & 4.9).

Objective:

Using the JEHUMS form to definitively prove your research is both ethically superior and scientifically robust.

Navigating the JEHUMS Form (Admin)

➤ Submission Protocol

Forward the word-processed completed form directly to the UMS Animal Ethics Committee (AEC) Secretariat.

📎 Crucial Attachments

Must attach a complete copy of the full research or teaching proposal. Applications without this will be immediately returned.

✓ Clearance Validity

Approved clearance is officially valid for LIVE VERTEBRATES for a maximum duration of three calendar years or less (depending).



The Lay Summary – Sec 1.3



The Limit

Abstract/Summary must be strictly not more than 250 words.



The Goal

Write exclusively for a non-expert audience. Avoid dense academic jargon so the public can understand your objective.



The "Beyond" Tip

Clearly state Ethical Implications (Section 1.4) to show you've weighed moral cost versus scientific benefit.



Section 2 & 3.1 – Classification & Usage

Category	Project Description	Key Requirement
Category A	Sacrifice specifically for tissue collection	Provide exact scientific/common names and a specific gender breakdown.
Categories B - D	Procedures involving varying/prolonged stress levels	Provide exact scientific/common names and a specific gender breakdown.
Category H	Purely Fieldwork or Observational research	Must still be circled and officially cleared through JEHUMS.

Section 3.4 & 3.7 – Justification & Care



Justification (3.7)

You must logically explain the basis for species selection. Why this specific animal?

Furthermore, you are required to justify why the specific number of animals requested is the **absolute minimum required** to maintain statistical and scientific validity.



Environmental Enrichment (3.4)

Specify exactly how you will proactively improve the animal's living conditions during the study.

Consider critical welfare elements such as:

- Implementing social housing
- Providing cognitive puzzles
- Species-specific comfortable bedding

Section 4 – Experimental Methods



Competence (4.3/4.7)

Name the specific individuals. Detail their specific training and prior experience required to competently perform these precise procedures.



Anaesthesia (4.4)

Explicitly list the pharmacological agent, exact dose, route of administration, and the clinical signs used to ensure the animal is adequately under. (incl ref)



Supervision (4.8)

Detail exactly how you will systematically monitor animals and what intervention methods you will use to assess and prevent pain and distress.

Section 5 & 6 – Completion & Hazards



Euthanasia (5.1)

If applicable, state the **humane method**, the specific person performing it, and the biological disposal method.



Survival (5.1-iv)

If animals are not euthanized, you must state exactly what happens to them **post-project** (e.g., adoption, return to herd).



Hazard Disclosure

Transparently disclose any exposure to **radiation, carcinogens, or pathogens** to ensure safety for both humans and animals. (Section 6.1-6.3)



Section 8 – The PI Declaration



The Principal Investigator accepts **FULL RESPONSIBILITY** for the ethical conduct of the project.

- Ensuring no unnecessary repetition of work
- Verifying all personnel are adequately trained before touching an animal

- UMS JEHUMS DECLARATION COMMITMENT -



Final Submission Checklist

Word-processed

Ensure the form is fully typed. No handwritten entries are allowed.

Proposal Attached

A complete copy of the research/teaching proposal is included.

Lay Summary

Strictly under 250 words and completely jargon-free.

Permits

Coordination details for protected native species are included (if applicable).

PI Signature

Physically or digitally signed and dated appropriately in Section 8.

Animal Ethics: From the 3Rs to the "Beyond" Paradigm

3R Category	Core Objective	Traditional Examples	The "Beyond" Paradigm
Replacement	Avoiding or replacing the use of animals in research.	<ol style="list-style-type: none"> Human cell cultures (<i>in vitro</i>). Computer modeling (<i>in silico</i>) for toxicity. 	Human-Relevant Methodologies (NAMs): Prioritizing technologies like Organ-on-a-Chip as scientifically superior models for human biology.
Reduction	Using fewer animals to obtain the same amount of data.	<ol style="list-style-type: none"> Statistical power analysis for minimum "n". Sharing animal tissues across research groups. 	Scientific Validity & Robustness: Focus on pre-registration and high-quality data to ensure reduction doesn't lead to underpowered studies.
Refinement	Minimizing pain and distress while enhancing welfare.	<ol style="list-style-type: none"> High-quality post-surgery analgesics. Non-invasive imaging (e.g., MRI) vs. invasive sampling. 	Culture of Care & Positive Welfare: Ensuring a "Life Worth Living" through extensive environmental enrichment and mental stimulation.

Questions & Submission

Let's get your research approved and moving forward!



Animal Ethics Committee Secretariat

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UMS
UNIVERSITI MALAYSIA SABAH



ANIMAL ETHICS COMMITTEE UNIVERSITI MALAYSIA SABAH

Application for Approval of a Research Project Involving the Use of Animals, and Approval as an Investigator for the Project

NOTE:

1. Please complete the application form in accordance to the Animal Ethics Committee Guidelines. Incomplete application will result in the return of the application and delay in the granting of the approval.
2. Attach a copy of the proposal (research / elective / teaching / other).
3. Application must be word-processed or typewritten and forwarded to:

**Chairperson, Animal Ethics Committee (AEC),
Centre for Research & Innovation, Universiti Malaysia Sabah (UMS),
Jalan UMS, 88400 Kota Kinabalu, Sabah.**

4. Please submit the application and direct all enquiries to the following address:
Secretary, Animal Ethics Committee, Centre for Research & Innovation, Universiti Malaysia Sabah (UMS), Jalan UMS, 88400 Kota Kinabalu, Sabah.
Tel: (6)088-320 393; Fax: (6)088-320 127 Email: ric@ums.edu.my

TYPE OF APPLICATION: [Please tick (/)]

RESEARCH () / ELECTIVE () / TEACHING () / OTHER () please specify: _____

If teaching / elective project, state course name and code:

NAME OF PRINCIPAL INVESTIGATOR / CO-ORDINATOR / CHAIRPERSON:

FACULTY / CENTRE:

PROJECT TITLE:

Received by Secretary, Animal Ethics Committee

AEC File No:

Date:

1. PROPOSAL

1.1 Project Title:

1.2 Project Objectives:

1.3 Summary of the Project/ Abstract (not more than 250 words):

1.4 State the Ethical Implications of the Project:

- i.
- ii.
- iii.

1.5 Duration

Proposed commencement date :

Estimated duration from : dd/mm/yyyy to: dd/mm/yyyy

1.6 Investigators / Co-ordinators / Chairperson:

Please list the names of persons responsible in handling animals (including students):

No.	Name	Dept/ School	Investigators / Co-ordinators / Chairperson	I/C / Passport No.	Contact No.	Signature & Date
1.						
2.						
3.						
4.						
5.						
6.						

2. CLASSIFICATION OF PROJECT (Please circle one or more)

- A. Project requiring animals to be sacrificed for the preparation of the whole animals or tissue specimens.
- B. Procedure carried out under anaesthesia and the animals sacrificed without regaining consciousness.
- C. Survival after an intervention, which causes minimal stress of short duration (e.g. venepuncture, brief restraint, and blood vessel cannulation under anaesthesia).
- D. Survival after an intervention, which causes major or prolonged stress (e.g. major surgery, prolonged restraint, administration of toxic or painful substances and major behavioural modification).
- E. Purely breeding projects.
- F. Production of antisera.
- G. Teaching purposes.
- H. Fieldwork
- I. Other procedures – please specify:

3. ANIMALS REQUIRED

3.1 TABLE OF PROPOSED ANIMAL USAGE:

(NOTE: Ethical Clearance can only be given for work involving **LIVE VERTEBRATES** for a maximum period of three calendar years only.)

No.	Scientific and Common Name	Male (No.)	Female (No.)	Non-Specific Gender (No.)	Total (No.)
1.					
2.					
3.					
	Grand Total				

3.2 SOURCES OF ANIMALS: (Address of Source / Supplier :)

3.3 LOCATION OF ANIMALS: (Please indicate where the animals will be housed during the experimental period)

3.4 ENVIRONMENTAL ENRICHMENT: (Please indicate type(s) of environmental enrichment (special / specific) to be used)

3.5 CARE OF ANIMALS: (State the name and contact address of the persons responsible for the daily care of animals (including after office hours, weekends and public holidays))

3.6 PERMITS REQUIRED:
(If protected native species, provide details of appropriate permits held)

Holder :
Issuing Agency :
Date of Issue :
Serial No. :
Period of Validity :

3.7 JUSTIFICATION:
(Please explain the basis for selection of the species and justification for the number of animals to be used.)

NOTE: Minimum number of animals to be used to achieve the objectives of the project.

4. EXPERIMENTAL METHODS

4.1 Procedures to be carried out on the animals: (Please circle)

- (a) Surgery: YES / NO
(If YES, answer 4.2 and 4.3)
- (b) Anaesthesia: YES / NO
(If YES, answer 4.4 and 4.5)
- (c) Other: YES / NO
(If YES, answer 4.6 and 4.7)

4.2 State surgical procedures to be carried out on the animals:

4.3 Name the person(s) having experience in performing the procedures:

4.4 Anaesthetic to be used:

Name :
Dose :
Route of Administration :
Duration :

Clinical signs to ensure anaesthesia are adequate:

4.5 Neuromuscular Blocking Agent to be used: YES / NO

If YES,

Agent: Dose:
Route of Administration: Duration:

Justification for use of neuromuscular blocking agent:

4.6 Outline the procedure:

4.7 Name the person(s) having experience in performing the procedure:

4.8 Supervision during experimentation:

(Detail the extent and method of supervision of animals during experimentation, including methods to be used for assessing and preventing pain and distress).

4.9 Post-procedural care:

(Detailed arrangements made by the investigators for immediate and continuing post-operative and / or post-procedural care, including details of restraint, housing and analgesics to be used).

4.10 Post-procedural survival time for the animals: (hours / days / months / years)

5. COMPLETION OF PROJECT

5.1 Animals to be euthanized: YES / NO

If YES,

(i) state the method to be used:

(ii) name of the person performing euthanasia:

(iii) method of disposal of euthanized animals:

(iv) If animals are not euthanized, state what happen to them:

6. HAZARDOUS MATERIALS

Does the project involve exposure of live animals to any of the following:

6.1 Ionising Radiation: YES / NO

If YES, Agent:

6.2 Carcinogen / Teratogen: YES / NO

If YES, Agent:

6.3 Pathogenic Organisms: YES / NO

If YES, Agent:

6.4 Other: YES / NO

Please give details.

If YES to any above;

Please indicate the health risks to humans and/or animals involved in the project:

7. GENETIC MATERIALS

7.1 Will you be isolating the DNA? YES / NO

Will you be inserting DNA into live animals? YES / NO

7.2

8. DECLARATION BY PRINCIPAL INVESTIGATOR / COORDINATOR / CHAIRPERSON:

I hereby declare that I and / or co-investigators / co-coordinators / vice chairperson have the appropriate qualifications and experience to perform the procedures described in this project. I am familiar with the provisions of the UMS rules and regulation in animals for the Care and Use of Animals for Scientific Purposes; and accept responsibility for the conduct of the experimental procedures detailed above; in accordance with the requirement of the rules and regulation laid down by Animal Ethics Committee UMS.

I further declare that the procedures described in this project do not constitute unnecessary repetition of work previously carried out by other research workers or myself, and that each person engaged in this project has been adequately instructed in, and is competent to perform, procedures that they are to carry out. If they are not already skilled in the procedures, I will be responsible for seeing that they obtain the necessary training in advance, so that each procedure on an animal will be carried out in the most appropriate manner.

Signature: Principal Investigator

Date

**Assesment and Certification for
Approval of a Research Project Involving the
Use of Animals, and Approval as an Investigator
for the Project**

Name of Applicant :

F/P/I/U :

Title of Project :

AEC File No :

*** For secretariat use only.

NO	SECTION	COMMENTS	RECOMMENDATION
1.0	Proposal		
2.0	Classification of Project		
3.0	Animal Required		
4.0	Experimental Methods		
5.0	Completion of Project		
6.0	Hazardous Materials		
7.0	Genetic Material		

ANY OTHER COMMENTS

CERTIFICATION OF THE AEC (Chairperson / Authorised Representative)

Name :

Signature : _____

Date :