CONFIDENTIAL MATERIAL

THE UNIVERSITY OF BIRMINGHAM

ANIMAL WELFARE AND ETHICAL REVIEW BODY (AWERB)

19th May 2022 (via Zoom)

MINUTES

Present:

22/05-01	Apologies Apologies had been received
22/05-02	Minutes The minutes of the meeting held on 7th April 2022 were considered by the Committee and were approved subject to some minor amendments.

22/05-03	Matters Arising There were no matters arising
22/05-04	Chairperson's Items There were no Chairperson's Items
22/05-05	Verbal Reports from the Director of BMSU and Named Persons A Users Forum was held to inform PPL holders of the latest changes in the Home Office and ASRU ways of working. This information is to be shared with their groups. Training of new users in refined handling methods, and Schedule 1 approaches is ongoing with all requests being met in a timely manner. Recent health screening results have not raised any concerns, and it was confirmed that the recent outbreak of mouse pneumonia virus (MPV) in the rats has not spread to the mouse colonies. BMSU has retained the 5-days notice booking system for procedures which is working well. This allows time for all bookings to be checked by a senior member of BMSU as the final step in the process of preventing unauthorised procedures. It was stressed that this was the last step in this process, and that prior to submitting the booking, the person undertaking the work must first discuss their plans with the PPL holder to ensure the planned work is authorised under the PPL. BMSU has upgraded the animal database (ARMIS) so that the training and competency records for users and staff are maintained more easily.
22/05-06	Report from the Fast Track Procedure There is nothing to report at present. ASRU is currently responding within 20 working days.
22/05-07-1	Project Licence Applications *a) Immune cell influence on the development of ovarian cancer* Summary: The stated aim of this project is to investigate how invasion of the omentum by ovarian cells is influenced by macrophage cholesterol metabolism. • Ovarian cancer is a gynaecological cancer, and is often discovered late in patients • There is a need to develop better and more specific treatments for ovarian cancer. To develop new treatments more needs to be known about how the cancer develops and invades the surrounding area (the omentum). • This project aims to understand how immune cells called macrophages promote the spread of ovarian cancer to the omentum (the main site of metastatic tumours) and prevent clearance of cancer cells. • The biggest proportion of immune cells in the tumour and omentum are macrophages, and when they are depleted, the cancer is better controlled with reduced spread. • Preliminary data implicates cholesterol metabolism as a mechanism that controls macrophage function in the context of ovarian cancer. The Committee raised the following points: This is a basic science application, but there is a clinical collaborator to help ensure that the work is clinically relevant and translational. The introduction of cells into the region of the ovary is a

	skilled technique; it was confirmed that this will be undertaken by an experienced member of the BMSU team. The scientific end points were discussed, and clinical scoring sheets will be developed to ensure the humane end points are as refined as possible. Pilot studies will be undertaken initially to help inform the clinical scoring sheets and to obtain baseline data upon which future studies will be based. The issue of randomisation and blinding was discussed, and it was confirmed that animals will be randomised, and blinding applied to ensure unbiased scoring. The power calculations need to be double checked using the EDA to ensure the numbers of animals is accurate. The aim of the project in the NTS needs to be clarified to ensure that it reflects the project more accurately. **Decision: Committee agreed that further discussions are needed between the NVS, BMSU, NACWO and PI prior to being sent to ASRU.**
22/05-07-2	*b) Repairing the damaged brain after traumatic brain injury* <u>Summary:</u> The stated aims of this project are to establish models of mild and repeated mild traumatic brain injury (TBI), to use these models to understand what happens to the brain after a TBI, and why the brain fails to repair and regenerate after injury, with a view to developing therapeutic agents to counteract this and ultimately preserve function. • In the UK alone, there were almost 160,000 admissions to hospital with brain injury (including traumatic brain injury (TBI)) in 2016-2017, an increase of 10% since 2006. • The main cause of brain injury is motor vehicle accidents, followed by falls and interpersonal violence, and increasingly, sports-related injuries. • Brain injury costs the UK economy £15 billion per year and is a significant personal burden to the individual, causing immediate symptoms such as headache, speech problems and dizziness, but also long-term problems such as sensory deficits, sleep problems, memory and mood changes and eventually mental health issues. • Currently, the only treatments available target the symptoms; this leaves an urgent medical need for an effective therapy that can directly treat the injury by promoting axon regeneration thereby preventing the loss of function that would otherwise ensue. • This project aims to identify and test therapeutic targets and agents that will promote the regrowth of axons, counteract the negative effects of injury to the brain, and ultimately preserve/promote useful function. The Committee raised the following points: The proposed model causes concussion with a linear force. It was questioned whether rotational forces also needed to be considered to ensure the model was reflective of the clinical situation, however it was confirmed that the majority of concussion injuries seen in the clinic are in fact caused by linear forces. There was a query relating to whether both sexes could be used in the studies and it was confirmed that the same intervention can, and will, be used for both males and female rats There was a discussion around the need for the two models (single TBI vs repeat TBI). It was confirmed that whilst the majority of the experiments will involve a single injury, the repeat TBI model was also required as multiple head injuries can lead to sub-concussive events, and repeat TBI is a common scenario in certain sports or in cases of interpersonal violence. It was therefore agreed that this is a clinically relevant project. It was queried whether this application should be split into two separate licences, one reviewing single injury and one considering multiple injury. It was argued that this should remain as a single licence as the two models are inter-related, in that comparisons need to be made between the single and repeat injured animals so as to identify commonalties and differences that may inform future project direction. The adverse effects following single and repeat TBI were discussed, and it was confirmed that the animals appear outwardly normal, hence the need for non-invasive locomotor and sensory functional assessments (such as beam walking) in order to detect subtle changes between groups. It was also queried whether cognitive tests ought to be considered, however it was explained that whilst the TBI causes a decline in cognition, this is not detected until around 3 months post-injury: initially the work planned for this licence considers short term effects only. There was a concern raised that whilst the animal may appear outwardly normal following injury, it could be suffering from headache-type pain, and so it was agreed that analgesia will be provided pre-emptively both before and immediately following the intervention. It was queried whether there had been any modelling of the forces and the effect this may have on the rest of the animal beyond the required

	injury to the brain. It was explained that the rat is placed on a thick cushioned base so as to absorb additional impact, and a protective plate is used in such a way so as to ensure there is no injury to the skin or skull itself. It was agreed that the application needs to be amended to explain that there are no measurable signs of discomfort to the animal. **Decision: Committee agreed that further discussions are needed between the NVS, BMSU, NACWO and PI prior to being sent to ASRU.**
22/05-08	Matters relating to the 3Rs • NC3Rs Skills and Knowledge Transfer grant awarded to HTI/Chemical Engineering • NC3Rs/MRC joint webinar: using both sexes in animal experiments on Thu, Jul 21 2022, 10:00 - 11:00 • Pre-announcement of a new collaboration between the BBSRC and NC3Rs. £4M available for the development of next generation non-animal technologies. Application form will be available on JeS from Thursday 23 June. Guidance will be available in early June via the NC3Rs website • NC3Rs EDA workshop was delivered to researchers at Birmingham on 7 April • 3 people attended the FRAME training school at the end of April • Midlands 3Rs Symposium 8 July in Nottingham. 21 researchers from Birmingham have signed up (plus 10 BMSU staff). Four poster abstracts received from Birmingham (all have expressed an interest in giving a flash talk). • The 3Rs Self-Assessment has been successfully completed for this year and the feedback will be used to help formulate the latest 3Rs Strategy for the university. • The Regional Programme Manager has been supporting one of the BMSU animal technicians to undertake a fish enrichment pilot study. Initial results indicate that the fish engage most with one particular type of structure, however a follow-up study is required to confirm this finding before implementing this more widely. • The BMSU funded a space at the FRAME training school. Having attended the event, the funded candidate has provided feedback on how they have benefitted, and their plans to disseminate their learning, thus helping to further promote reduction via good experimental design. • Following issues with MPV in the rats, the rat play pen has now been deep-cleaned, and the rats held in that room are once again being given access to it.
22/05-09	Condition 18 Reports There have been 2 reports submitted. Both are related to unexplained and unexpected deaths following protocols.
22/05/10	Any Other Business University has two central Research Ethics Committees (RECs), HASS (for the College of Arts and Law and the College of Social Sciences) and STEM (for the Colleges of Engineering and Physical Science, Life and Environmental Sciences and Medical and Dental Sciences) in addition to the Animal Welfare Ethics Review Body. The University Research Committee has stated that there is an expectation that all senior members of academic staff need to be involved in the servicing of Ethical Review Committees. There are currently 55 academic colleagues across the University who are currently supporting the ethics review process **ACTION**: Chair of AWERB to contact URC to explain that the AWERB Committee needs to remain stable due to the level of expertise required, and not to have a constant turnover of members. In general members are retained for at least 5 years.
22/05-10	Date of Next Meeting The date of the next meeting – 30th June 2022 via Zoom

GLOSSARY

3Rs	Replacement, Reduction and Refinement
ASRU	Animals in Science Regulation Unit
AWERB	Animal Welfare and Ethical Review Body
BBSRC	Biotechnology and Biological Sciences Research Council
BMSU	Biomedical Services Unit
EDA	Experimental Design Assistant
FRAME	Fund for the Replacement of Animals in Medical Experiments
HASS	Humanities and Social Sciences ethics committee
HTI	Healthcare Technologies Institute
JeS	Joint Electronic Submissions
MPV	Mouse Pneumonia Virus
NC3Rs	National Centre for the Replacement, Refinement and Reduction of Animals in Research
NACWO	Named Animal Care and Welfare Officer
NTS	Non-Technical Summary
NVS	Named Veterinary Surgeon
PEL	Establishment licence
PI	Principal Investigator
PIL	Personal licence (Procedure Individual Licence)
PPLs	Project licence (Procedure Project Licence)
RECs	Research Ethics Committees
STEM	Science, Technology, Engineering and Mathematics ethics committee
TBI	Traumatic Brain Injury
UoB	University of Birmingham