



OU Students for Ethical Science

Newsletter – Winter 2015/16

The news from the OU in the past year is pretty good. Those of you who were here last year might remember a brief report on the Animal-Computer Interaction project, a case of truly animal-friendly research at the OU. Since then they've continued to achieve good work, without compromising their remarkable ethical policy. Read the latest on page 1.

The number of animals used in standard (harmful) research at the OU during 2014 was 221 rats and mice, down 30% from 318 in 2013.

As for OUSES, this year we've been planning and discussing a possible project to make “further reading” factsheets tailored to current OU science modules – see page 5. We've again sent an article to appear on OUSA's Freshers' Fair website (a great success last year – hello to those of you who joined us then!), and Diana Isserlis sent literature to a face-to-face Freshers' event in the West Midlands. Besides that, there are the things we do every year:

- keep up the website with its information
- chase the Animal Use report (and I also sent a FoI request and got more details; see page 3)
- hold the AGM, see page 2
- just be here reminding the OU that 50-odd people *still* want the experiments to end!

We currently have 60 members, 5 more than last year, which is great!

Anna Bond

OU Animal-Computer Interaction Project

Letter from Dr. Clara Mancini

Apologies for the slow response, work has been really hectic.

Thank you so much for your continued interest in the research activities of the ACI Lab and I am very grateful for the support that OU Students for Ethical Science have given to our projects.

Our ethics protocol is still under review for a special issue on ACI, which I am editing with colleagues from other universities for the International Journal for Human Computer Studies. As the manuscript is being handled by one of the other editors, I am not sure where it is in the reviewing process and how it is being received by the reviewers, but as soon as I have news of the outcome I will share it with you.

Regarding our research projects, thanks to the financial support we have received following the OU mail appeal, we are currently planning the next phase of our projects with mobility assistance dogs and cancer detection dogs. In particular, the charity Dogs for Good (formerly Dogs for the Disabled) wants to integrate our prototypes for assistance dogs in their training protocols as well as introduce them in the homes of some of the charity's clients, so we can test and further develop them. We are also planning the development of algorithms to aid the interpretation of data collected via our prototypes for cancer detection dogs, as well as the use of a wider range of sensors to gather data (and information) about the dogs' response to biological samples.

We also have other projects under way, aiming to improve animal welfare in different contexts. For example, one of our PhD students is working on the idea of providing interactive enrichment for captive elephants, while another is working on novel ways to reduce the impact of wearable biotelemetry on free-living and domestic animals. Finally, again in support of assistance dogs, another one of our PhD students is nearing the end of her research which has been about developing a canine alarm to enable diabetes alert dogs to call for help on behalf of their humans if they become incapacitated.

If you would like more information about any aspects of our research, you would be most welcome to visit us. Also, if you would like to read any of our publications, please do not hesitate to let me know.

Best wishes,
Clara

For more details of the ACI projects, see <http://www.open.ac.uk/blogs/ACI>

AGM 2015

Report by Anna Bond

(Please note these aren't the official Minutes, which haven't been prepared yet – just my own account.)

This year's meeting was held on our forum (<http://ouses.org.uk/phpbb>) from 22nd September to 9th October. Diana Isserlis, Vivien Pomfrey and I contributed. Sam Covington apologised for being unable to take part directly, but sent Diana her report as Treasurer. Please remember, everyone is welcome to join in at the AGM, not just the current "officers", even if just to chat about the news that comes up! None of the three of us were too well at the time, but we got through the business.

Sam reports that the balance in OUSES's account is £1145.08. We agreed to send £200 to the Animal-Computer Interactions Project (see page 1), and £100 each to Cruelty Free International, the Dr Hadwen Trust and Safer Medicines. Thank you to everyone whose donations have made this possible!

We discussed the state of the "extra reading factsheets" plan - see page 5.

As nobody else objected, the post holders remain:

Chair: Anna Bond

Secretary: Diana Isserlis

Treasurer: Sam Covington

Membership Secretary: Diana Isserlis

Webmaster: Diana Isserlis

InterNICHE Liaison Officer: Vivien Pomfrey

Scientific Advisor: Vivien Pomfrey

Honorary life members: Chris Aldous, Sally Horn and Vivien Pomfrey

Vivien told us that very little seems to be happening on the InterNICHE e-mail list these days, and that as InterNICHE is about educational alternatives, it was largely irrelevant to us now that the OU are no longer using animals in teaching.

Vivien passed on a petition against proposed changes to the Freedom of Information Act, which has often been vital to charities trying to access information about animal research:

<https://speakout.38degrees.org.uk/campaigns/protect-freedom-of-information>

Vivien also supplied a link to the OU database of its recent publications in Life, Health and Chemical Sciences, containing the latest details of animal research at the OU: <http://tinyurl.com/ptc456o> If you're not a current student you can't access the full text of most of the academic papers (unless you happen to have your own subscription to the journal in question), but the abstracts are visible to anyone.

Diana's updated the booklist on the SES website, adding new books providing information about animals and the science relating to their use in research. Do have a look!

OU Animal Use 2014

Report by Anna Bond

This is largely responsible for the delay in the newsletter; there was a muddle over the figures for 2014 and I had to write to people for confirmation. The OU's Animal Welfare and Ethics Review Board (AWERB) has now confirmed:

“The total number of animals used in 2014 under Home Office licence was 221.

- 30 rats used for investigating Attention Deficit Hyperactivity Disorder nervous system modelling, protection repair.*
- 191 mice used for investigating the effects of ageing on vasculature and barrier [i.e. blood-brain barrier] function and on the role of Dopamine in the development Huntington's disease.”*

Meanwhile I sent in a Freedom of Information request asking for more details, and received this response from Beverley Midwood. I think it's a big improvement on previous occasions – detailed and all questions answered first time. I think they must have remembered the things they “didn't have information on” last year and made sure to keep that information this year. But once again the “details of what was done” response doesn't answer the question.

“A. The breakdown of research projects for 2014 are as follows:-

- Investigating ADHD,*
- Nervous system protection and repair,*
- Blood Brain Barrier(BBB)dysfunction in the central nervous system, pathologies in Multiple Sclerosis and Alzheimer's decease,*
- Effects of ageing in the gut*
- Huntington's disease.*

B. Details of what is done in each case:

- Drug administered effects and behaviour,*
- Nerve repair tissue.*
- Ageing studies for the BBB Dysfunction effects on the gut as well as Huntington's disease.*

Well, if you can get a description of the procedures carried out from that, you're doing better than me. I'd explained so clearly in my request what I was after, even giving examples, that I'm beginning to suspect they know full well what I'm asking for but are fudging deliberately.

C. What discoveries have been made:-

Most of the work carried out in the last 12-24 months will not have been published yet, due to the time taken to complete analyses and write-ups, but some recently published articles describe the purpose and outcomes of research that is and has been taking place at the University:

- Huntington's disease – we have identified chemical changes taking place in the brain.*
- ADHD (Attention Deficit Hyperactivity Disorder) – we have examined certain types of reactions of ADHD rats and we have investigated the effects of certain drugs on ADHD rats, which contributes to knowledge around ADHD.*

The phrase “ADHD rats” is probably used for brevity's sake, but I want to note that it's misleading. Since it's unknown exactly what causes ADHD, it's impossible to create “a rat with ADHD”. What were actually used in the experiments were “Spontaneously Hypertensive Rats”, a breed of rat that shows some apparent *similarities* to ADHD – all they can legitimately say is that they've investigated the effects of certain drugs on rats with some symptoms resembling ADHD. In fact, when I looked up published papers, one of the discoveries reported was a new way (a defect in their hearing) in which the rats' condition was *not* like actual ADHD.

- Ageing in the gut – we have investigated this in order to understand how and why changes occur in the bladder and bowel functions of elderly mammals. We have also undertaken research in this area in order to understand gastrointestinal disorders in elderly mammals. This knowledge will help others to develop treatments for elderly humans who have such disorders and so improve their health and quality of life.*

• What alternatives were considered:-

In Vitro Cultured cells.

A shout-out here to Ignacio A. Romero and his group, whose paper (<http://oro.open.ac.uk/42432/>) I came across while looking these experiments up in the OU database (see AGM report). They're apparently

doing sterling work on developing in vitro models of the human blood-brain barrier (using human cells, too, not rat cells or the like), not only for ethical reasons but for enhanced accuracy.

· *What conditions the research animals kept in at the OU:-*

The conditions the animals that are kept at the OU fulfil the Home Office guidelines and the University considers that the conditions are among the best for facilities of this kind. The welfare of all animals is a main priority and the facilities are subject to inspection by the Home Office.

We also have a highly qualified technical team, NACWO (Named Animal Care and Welfare Officer) and NVS (Named Veterinary Surgeon) to make sure this is carried out.

· *If sourced from outside the OU then where and what mechanisms we have in assuring the welfare of those animals:-*

If and when needed we are supplied by a reputable licenced suppliers who are committed to animal welfare and ethics.

These two replies seem to me to amount merely to a statement that the way they're doing it is OK; but it does show that they're trying.

In respect of your query as to whether this type of information can be included in the report to OUSA, the University is planning to publish more information on its public website, but I do not yet know when this will take place.”

Your support is important to us!

SES is a Society affiliated to the Open University Students' Association (OUSA). Our aim, using peaceful means, is to stop the University using animals, and/or animal/derived materials that are not ethically sourced. We also aim to provide information and support to students who wish to study life sciences without harming animals.

In order to maintain our status as an OUSA Society, we have to ensure that our membership numbers remain above a certain level so, if your membership is due for renewal, we do urge you to return the enclosed membership form, and please do let us know if you have a change of address. We do not release any personal details outside SES.

The OU's Policy on Animal Use

The OU's policy on the use of animals can be found at:

www.open.ac.uk/science/lifesciences/about-the-department/life-sciences-animal-statement.php

SES's Policy on Animal Use

Our policies can be found at: www.ouses.org.uk

Current OUSA policy on the OU's use of animals and animal tissue

Policy Statement 20. Animals in Experiments

This Association recognises the Open University's endorsement of the principles of the 3 Rs (namely Replacement, Reduction, and Refinement) in its use of animals, and in order to demonstrate its continuing commitment to those principles we ask the University to make an annual statement giving numbers of animals used in research and in education, year – on – year, until five successive years are shown and thereafter show the figures for the current and the four preceding years, and that this report be sent to the General manager of OUSA for onward transmission to those who request it. We also ask the University:

- to encourage the development of teaching methods that do not use animals harmfully and ensuring that new modules avoid the use of animals except when there is no practical alternative
- to encourage research students to discover and use methods that are not harmful to

animals

- to source any animal tissues or materials ethically
- to make it clear to students in the module choice publications and web pages that they will be able to opt out of animal experiments without penalty, and/or alternative methods of learning the same processes will be provided
- to include student representation on University Committees and Advisory Groups where animal use is tabled for discussion.

“Further Reading” Project Message from Anna Bond

No OU courses use animals directly now, but many of them discuss the use of animal experiments, and often they gloss over any mention of exactly what's done to the animals or the alternatives, or even that there's any need to try and find alternatives - which implies that this is a harmless and necessary part of the science. This isn't a good message to be teaching.

Along with Diana and Vivien, I've been making a plan to put together “extra reading” factsheets for each of these modules for those who are interested. We'd research the details of the tests referred to, alternative ways to test such a question, and the scientific strengths and weaknesses of each and how you might decide whether harming animals is really necessary in a particular case – or when a less obvious method might even be better – and discuss all this in the factsheet. It could also form a good demonstration of some of the science discussed in the module, rather like the “case studies” in S205 and others.

Students I asked on the OUSA science forums (not OUSES members) have expressed a lot of interest in reading the factsheets if they happen – along with the usual rousing off-topic debates about animal research in general.

This looks as if it could be quite a fun project for somebody, but the three of us can't do it all – we all have limited time and energy, and besides, we can't know what's in modules we haven't done ourselves. We'll need other people to join in with us.

First, if you've recently studied an OU science or health science module, you can send us a list of mentions of animal experimentation in the module texts, and any specific places where you think it doesn't say enough about the issues involved in doing that. If an exhaustive list is too much, a partial list will still help. Best of all if you can copy and paste the relevant passages (there are usually digital copies of printed course texts on the module website). That will then form the starting point for discussions in the factsheet for the module. Or if a science or health science module doesn't mention animal experimentation at all, we need to know that, too, so we can cross that off the list. We already have information for SD329, SXC288, SXHL288, S345, S346 and S347, we need all others. Your name will be kept confidential.

Second, if you want to write, or help to write, one of the factsheets, please get in touch! The three of us can't do them all ourselves. They're not meant to be huge, a few pages. Much the same kind of thing the science students among us have done for TMAs. Anyone who has experience of doing scientific work in the area covered by one of the modules is especially welcome.

Obviously, it'd be simplest if both of these things were done by the same person, but it's not essential. Do get in touch.

Anna Bond

What experiments are regulated by law? - an introduction. Article by Anna Bond.

Under the Animals (Scientific Procedures) Act 1986, the Animals in Science Regulation Unit of the Home Office is responsible for issuing licences for animal research in Great Britain and for checking that the terms agreed to in those licences are kept. (In Northern Ireland the same law applies but enforced by the Department for Health, Social Security and Public Safety.) However, not all research involving animals requires a licence. This is important to OU students concerned about animal research because, apart from

anything else, it turns out that the annual Animal Use Report that's given to OUSA (and appears in our newsletter) covers only HO-licensed research.

A licence is required for any procedures that:

- are carried out on a living vertebrate (other than man) or a living cephalopod (the group that includes octopi, squid and cuttlefish, known to be particularly intelligent),
- are done for scientific or educational purposes,
- and "may cause that animal a level of pain, suffering, distress or lasting harm equivalent to, or higher than, that caused by inserting a hypodermic needle according to good veterinary practice". This is referred to as the 'lower threshold'.

So, for instance, filming birds in the wild in order to study their behaviour doesn't require a licence. For another example, in 2014 the OU's own Animal-Computer Interactions Project recruited a number of dogs and their owners to test out switches and other devices designed to be operated by assistance dogs. Although this is scientific research, and involves animals, the dogs were not harmed and were not forced to do anything they didn't want to, so no licence was needed.

Pinning down exactly what is covered by this is surprisingly complicated, and the Home Office has taken a good deal of care to close many potential loopholes and attend to borderline cases. For example:

- Embryonic creatures are considered to be "alive" once they are two-thirds of the way through their natural gestation or incubation period. For animals that have a distinct larval stage, such as a tadpole, the larvae are considered "living" once they can feed independently. Cephalopods are "alive" from the time they hatch.
- If a procedure is carried out on an embryo or larva before that point, but it is allowed to live past that point and may by that time still be suffering effects which breach the "lower threshold", that still needs permission.
- A procedure performed under anaesthesia or analgesia needs permission, if the same procedure would breach the "lower threshold" if done without anaesthesia or analgesia. (The idea is presumably that in that case the experiment has the *potential* to cause suffering if the anaesthesia is not carried out properly, and so needs regulatory oversight to make sure that it is.)
- A series of actions which don't individually breach the "lower threshold", but do if taken together, may still need permission - for instance, gradually reducing the temperature of an animal's environment a little at a time.
- Methods used to mark an animal for identification are exempt so long as they cause "no more than momentary pain and no lasting harm" - for instance, ear-marking or micro-chipping. Doing tests on tissue obtained as a genuine by-product of this does not need separate permission either, so long as the researcher does *no more* to the animal than would be needed for identification purposes anyway. But obtaining blood, tissue or DNA in any way that causes any more harm or suffering than this, such as cutting off the tip of a mouse's tail, is *not* recognised as necessary just to identify an animal and therefore cannot be done without separate permission.

One thing that is *not* covered is the use of animal tissue or blood products. For instance, some research carried out *in vitro* on cultured cells nonetheless entails the killing of large numbers of animals to supply the components - e.g. rats for the cells being cultured, foetal calves for blood serum to grow the cells in, etc. The laboratory doesn't need a licence for this as their experiments don't involve living animals, and nor do the suppliers - for some reason, killing is not itself counted as a "procedure", even though carried out on a living animal for scientific purposes; they only have to comply with the usual laws on "humane" slaughter. However, if any other procedure is performed before killing the animals (e.g. genetic modification, or exposing an animal to a certain substance to make it produce antibodies), that is regulated as usual.

This information is taken from the Home Office's "Guidance on the Operation of the Animals (Scientific Procedures) Act 1986" (revised version, published 13th March 2014) If you want to learn more about the current law regulating animal research and how this is enforced (at least in theory), this document is a good place to start. Unlike some official guidelines, it's written in very clear and readable language; it's intended to be read, unlike the Act itself!

The full document can be seen at

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291350/Guidance_on_the_Operation_of_ASPA.pdf

More information and links, including how to order a paper copy of the guidelines, at

<https://www.gov.uk/guidance/research-and-testing-using-animals>

One relevance of all this, for OUSES members, is that as I mentioned before the OU's annual Animal Use Report has up to now covered only research requiring a Home Office licence. So we know only about the experiments the OU is doing that we might object to, not ones we'd approve of! A few weeks ago, though, the OU's Animal Welfare and Ethics Review Board (who prepare the report) offered to try to include figures for animals used in other, non-harmful research in future reports. So we'll be able to get a fairer picture of what the real state of affairs is at the OU.

This piece, and the following one, are by way of being an experiment. Would you like to see more information articles like this in future, along with the OUSES/OU/OUSA news that normally fills the newsletter? We can't afford to send out more than one 12-page newsletter a year, but if it won't fit in that, we could post some on the website, or maybe send out an extra newsletter by e-mail. Post on the forum or write to let us know whether you think this is a good idea and how you'd like it done if so, and especially if you have anything to send in yourself - there'll be some pieces from us, but we can't undertake to write it all ourselves!

Enough to make a rat laugh Article by Anna Bond.



* There are at least 64 species of rat (genus *Rattus*!) in the world, not counting the many more distantly related species such as pouched rats and kangaroo rats. The species used in laboratories, and the only one found in Britain, is the brown rat, *Rattus norvegicus*.

* Rats are very sociable creatures. One ingenious study tried to measure the extent of a rat's desire for company by making them work for it by repeatedly pressing a lever, and found that they would press the lever more than 70 times in a row to gain access to another rat - more than for, say, access to a larger cage or a cage with toys. It's sad that laboratory rats are so often kept in separate cages.

* Being small, rats have very high voices. They do squeak audibly (though much less often than they're generally thought to), but much of their communication is above the limit of human hearing (about 20 kHz). Scientists overlooked all the rest of what they were saying until quite recently! A long call at 22 kHz, for instance, is used as a "complaint call"; short 50 kHz chirps, on the other hand, are made when rats are playing, or when they expect a treat. When they're tickled they let out a burst of rapid 50 kHz chirps. (Rats love to be tickled!) The researchers think this might be a rat's way of laughing.

References, and more about rats' and other animals' behaviour:

Bats Sing, Mice Giggle by Karen Shanor and Jagmeet Kanwal

Pleasurable Kingdom by Jonathan Balcombe

<http://ratbehavior.org> - includes a whole page of different calls and when they seem to be used, as observed from pet rats.

Picture: "The Dureena sisters in the nest" by "Pockafwye" (2007)

<https://www.flickr.com/photos/pockafwye/512756598/> Available under Creative Commons Attribution-NonCommercial License.

Can you help by distributing SES information?

We have created a series of factsheets and leaflets which can be downloaded to print out from our website at: www.ouses.org.uk/resources.html

If you are attending a residential school, revision weekend, open event or OUSA event, please could you distribute this information to people who might be interested?

Find us online

Please visit our website at: www.ouses.org.uk

In common with other OUSA Societies we have an OUSA Moodle Forum associated with us, open to members and non-members. You can access this from your StudentHome page: select the "Student Association forums" link (left-hand side of page, under "Links"), then select "OUSA Live", "Societies and Groups" and finally "OUSA Ethical Science".

We also now have a members-only forum accessible both to current students and non-students. You can find instructions on how to join at: <http://ouses.org.uk/forums.html>

Email groups

Vivien Pomfrey, our scientific advisor, maintains four email groups to which she sends information on animal-related topics. These are for people interested in:

Animal experimentation and alternatives

Animals generally (especially animal welfare issues)

Veganism

Vegetarianism

If you are not already in any of these groups (or are not sure!) and would like to be included, you can ask to be added to whatever groups interest you by email to: ses.membership@blueyonder.co.uk You can leave a group at any time by emailing the same address.

How to contact us

You can contact the SES Membership Secretary by email at ses.membership@blueyonder.co.uk or by post at 54 Sunningdale, Yate, Bristol BS37 4JA. For more contact details see www.ouses.org.uk/contacts.html.