

*Science in the Service
of Animal Welfare*

UFAW

*The international animal
welfare science society*

Annual Report 2014-2015



The Universities Federation for Animal Welfare
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UFAW

The international animal welfare science society

The Universities Federation for Animal Welfare, founded in 1926, is an independent charity promoting animal welfare science worldwide together with high standards of welfare for farm, companion, laboratory and captive wild animals, and for those animals with which we interact in the wild.

It works to improve animals' lives by:

- Promoting and supporting developments in the science and technology that underpin advances in animal welfare
- Promoting education in animal care and welfare
- Providing information, organising meetings, and publishing books, videos, articles, technical reports and the journal *Animal Welfare*
- Providing expert advice to government departments and other bodies and helping to draft and amend laws and guidelines
- Enlisting the energies of animal keepers, scientists, veterinarians, lawyers and others who care about animals

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Letter from the Chairman

Welcome to UFAW's 2014-2015 Annual Report.

I hope you enjoy the reports on UFAW's impressive range of activities over this last year. The range and scale of UFAW's activities continue to grow. This is evidenced by the increase in its international profile with animal welfare science initiatives being undertaken across the globe from Africa to Zagreb in Croatia where UFAW hosted a very successful international symposium in July 2015. Likewise, the UFAW Link scheme now has over 70 link universities from around the world.

Congratulations to Professors David Mellor and Georgia Mason on being awarded the UFAW Medal for Outstanding Contributions to Animal Welfare Science. Congratulations also to Dr Jasmeet Kaler on being awarded the UFAW Young Animal Welfare Scientist of the Year Award 2015 for her work on sheep lameness, and to the 18 students who have been awarded a UFAW Animal Welfare Student Scholarship for 2015. These students join well over 300 students who have previously benefited from the award, representing the important next generation of scientists working to improve the welfare of animals.

Thanks are due to UFAW's staff for the hard and dedicated work that they have undertaken over the last year. We are sorry to be saying goodbye to Brian Pemberton, PR and Fundraising Officer, who retires from UFAW and HSA. We wish him well and thank him for his conscientious work for the two charities over the last 10 years.

Finally, I would like to thank UFAW's supporters for your continued support which enables UFAW to undertake the impressive activities in the service of animal welfare outlined in this report.

Richard Bennett



Chief Executive's Report

There are many variables, that influence the ways in which we humans interact with animals and consequent animal welfare outcomes, but perhaps the most important of all is knowledge about animals and animal welfare issues. From the organisation's very first meeting in 1926 at Birkbeck College in London, UFAW's aim has been to harness the power of science to improve our knowledge of animals and benefit animal welfare.

Without knowledge, people can act with good intentions but waste resources without actually benefiting the animals or even inadvertently cause harm to animals. As described on page eight, decisions that we make when purchasing companion animals can have unfortunate consequences on the incidence of diseases that have a genetic component. UFAW's website provides prospective purchasers with the information that they need to make informed decisions with the aim of eventually reducing the incidence of these conditions, and UFAW is now working with researchers at The Royal Veterinary College (RVC) to enlarge and improve this resource.

Those who are involved in the professional care of animals often have very extensive knowledge, but even well-established practices may need to be modified or changed in the light of new knowledge. The recipients of this year's UFAW annual awards have all been instrumental in changing current practice. Professor David Mellor carried out essential research to provide clear evidence of the welfare impact of common animal husbandry techniques, Professor Georgia Mason's work has led to more humane housing for farmed mink in Canada, while Dr Jasmeet Kaler's research has changed guidelines and practices with respect to the farming of sheep.

UFAW's promotion of the gaining of knowledge about animals has had, and continues to have, a major impact on animal welfare. We are very grateful to all UFAW's supporters who understand this important point, and who, by leaving legacies or making donations, have enabled the activities described in this report.

Robert C Hubrecht

Medal for Outstanding Contributions to Animal Welfare Science

The UFAW medal for Outstanding Contributions to Animal Welfare Science is awarded to individuals, anywhere in the world, whose research, teaching, service and advocacy has significantly benefited animals. It recognises exceptional achievement of scientists who have made fundamental contributions to the advancement of animal welfare over a number of years.

In July 2015 at the UFAW Symposium 'Animal Populations – World Resources and Animal Welfare Science' in Zagreb, Dr Robert Hubrecht presented medals to two exceptional scientists: Professor David Mellor of the Animal Welfare Science & Bioethics Centre, Massey University and Professor Georgia Mason of the Department of Animal and Poultry Science, University of Guelph.

Professor Mellor has made a significant contribution to the development and recognition of animal welfare science and has played a major role in the application of science to animal ethical analysis and humane animal management. At the Moredun Research Institute in Edinburgh, David studied pain and stress associated with castration and tail docking in lambs, and his conclusions were used to form sound practical advice to farmers and veterinarians. More recently, he has been a leading authority on foetal consciousness in utero and during parturition and his conclusions have been important for informing new legislation and animal husbandry.

David has also made a major contribution to animal welfare assessment and ethical decision-making through the use of the extended Five Domains Model, which he first introduced in 1994. At an international level, he has had a pivotal role in the establishment of the New Zealand and Australian OIE Collaborating Centre for Animal Welfare Science and Bioethical Analysis. He has vigorously promoted animal welfare scholarship, and animal welfare science-based policy development and practice, both domestically and internationally.

Professor Mason is highly regarded for her groundbreaking work on stereotypies in a variety of species, and is now widely recognized as the world authority on stereotypic behaviour. Georgia was also the first to use a multi-species comparative approach to address questions relating to animal welfare. She studied mink motivation in her early research and has continued to work with mink farmers on practical ways to improve mink welfare, resulting in environmental enrichment now being a requirement for farmed mink in Canada. She has brought a critical quantitative approach to the subject of animal welfare that has drawn admiration from a wide variety of scientists, and is an excellent role model for future generations of animal welfare scientists.

Professor David Fraser of the University of British Columbia was a 2014 winner of the award as announced in last year's report but, as he was unable to attend the 2014 ceremony in York, was also presented with his medal at the Zagreb symposium.



UFAW award winners with Dr Robert Hubrecht at the Zagreb symposium (from top) Professor David Mellor, Professor Georgia Mason, Dr Jasmeet Kaler.

Young Animal Welfare Scientist of the Year Award 2014

UFAW makes this award to recognise the achievements of young scientists who have made significant contributions to improving the welfare of animals. The award is open to postgraduate students, anywhere in the world, who are currently studying for a doctoral degree or who are in post-doctoral work within six years of their PhD.

On the 15th July 2015 at the UFAW Symposium 'Animal Populations – World Resources and Animal Welfare Science' in Zagreb, Dr Hubrecht presented the 2015 award to Dr Jasmeet Kaler, Lecturer in Veterinary Epidemiology and Farm Animal Health at the University of Nottingham.

Three million or so sheep become lame each year in the UK, and Dr Jasmeet Kaler's doctoral and post-doctoral work on lameness in sheep has contributed to current best practice on managing lameness on sheep farms. Her work influenced the Farm Animal Welfare Council opinion on lameness in sheep (2011), and has been used in lameness guidelines considered as industry best practice. Jasmeet's subsequent work has identified treatments for foot rot and shown that foot trimming in fact delays healing. Jasmeet's work has contributed to practical outcomes such as the significant reduction in prevalence of lameness over the last 10 years, increased detection and treatment, reduced use of foot trimming and increased use of anti-bacterial therapy, all of which are of huge impact to the welfare of sheep in the UK.

UFAW International Animal Welfare Science Society

Although UFAW is based in the UK, it is an international animal welfare organisation that works very much as an international learned society to promote animal welfare science. UFAW produces academic publications that include the peer-reviewed journal *Animal Welfare*, holds scientific meetings and seminars, and gives awards and grants for scientific research. UFAW has an international membership and has an international advisory panel to help ensure that UFAW activities and developments are appropriate and effective. UFAW has set aside funds to support the international development of animal welfare and, over the last year, has funded scientists from India, South Africa and Finland, amongst others, and has continued to grow its LINKS with universities, colleges and institutions outside the UK. In 2012 UFAW held its first international conference outside the UK in Barcelona, and its second overseas symposium 'Animal Populations – World Resources and Animal Welfare' was held in July 2015 in Zagreb, Croatia.



UFAW input to Chinese legislation on the use of animals in research

For several years UFAW has been working with the Home Office, Association for

Assessment and Accreditation of Laboratory Animal Care (AAALAC) and the Chinese Association of Laboratory Animal Science (CALAS) on the development of legislation for the welfare of animals used in research in China. Over the last year UFAW has provided detailed feedback on the proposed standards and has helped to organise, and contributed to, a three day seminar in Beijing in March on Research Animal Welfare and Ethics. The meeting brought together Chinese, European and US professionals to share information on good practice and the features that good legislation should cover. It is very pleasing that the standards that have been drafted use the 3Rs (developed from UFAW-funded work) as a central framework, and the standards should have a major impact on the welfare of research animals in China.

RSPCA/UFAW Laboratory Rodent Welfare Meeting

UFAW again collaborated with the RSPCA to organise the annual RSPCA/UFAW Rodent Welfare meeting which aims to promote scientific investigation of rodent welfare and refinements to the way rodents are kept in labs and used in research and testing. At the meeting, held at Leicester University, animal technologists, veterinarians and welfare scientists shared some of the latest findings about how to measure and improve the welfare of rodents used in laboratories. A host of topics were covered including:

- Refinements to suturing techniques for closing wounds and an examination of the adequacy of various analgesics following surgery in mice
- A discussion of whether providing running wheels in cages is beneficial (surprisingly, it may be that rodents may sometimes over-use wheels)
- A simple technique for scoring the body condition of rodents to ensure their nutrition is appropriate.

A report of the meeting is available from:
<http://science.rspca.org.uk/sciencegroup/researchanimals/implementing3rs/rodentwelfaregroup>

Research

The welfare of animals under human care depends upon:



- Belief in the sentience of the animals
- Understanding that this is morally important
- Having proper knowledge of the animals' needs
- Having the ability and resources to meet these needs
- Applying these beliefs, abilities and resources conscientiously

UFAW's efforts are focused largely at the third of these points – improving knowledge of animals' needs. It is now accepted widely, although it was not always so, that a broad range of species of animals are sentient – that is, that they have the capacity to experience unpleasant and pleasant feelings.

For many species, including some companion and farm animals, knowledge of environmental and psychological needs and how these needs can be recognised and met – minimising unpleasant and maximising pleasant feelings – remains less complete than is often assumed, and a great deal of both fundamental and applied research remains to be done in these areas.

UFAW's varied grant schemes to fund animal welfare science allow us to support projects ranging from small pilot studies through to high quality post-doctoral research. It has often been difficult for scientists to obtain funding in animal welfare science, but our efforts, with your generous support, have helped to educate and support a growing number of highly respected animal welfare scientists who not only carry out the necessary research but are a source of expert advice to individuals, institutions and Government.

A few UFAW-funded projects are outlined overleaf to demonstrate the Federation's current research interests.

NC3Rs award for UFAW-funded research into lab mouse welfare

The National Centre for Replacement, Reduction and Refinement (NC3Rs) of animals in research recently awarded Drs Joe Garner (Stanford University) and Brianna Gaskill (Purdue University) a Highly Commended award for their UFAW-funded work on thermal preferences in lab mice. Joe was the recipient of the UFAW Professor William Russell Fellowship in 2008. The Fellowship is awarded in honour of Professor Russell's work on the founding principles of laboratory animal welfare known as the 3Rs – replacement, reduction and refinement. Joe and Brianna's work focussed on a simple refinement to the way mice are housed in labs.



Dr Joe Garner with mouse. (photo: Joe Garner)

Joe and Brianna showed that mice prefer warm temperatures, often much warmer than those provided in labs. Crucially, they also showed that simply by providing an adequate amount of simple nesting material such as strips of paper, mice can build a nest and keep as warm as they need. The nest allows mice to regulate their own temperature (by moving in and out of the nest) and providing nesting material also provides a form of environmental enrichment. This simple refinement has been adopted widely and improved the welfare of millions of lab mice worldwide.

Congratulations to Joe and Brianna on their well-deserved recognition.

More details on the research can be read at <http://goo.gl/indfrj>
Gaskill B, Gordon CJ, Pajor EA, et al. (2012) Heat or insulation: Behavioral titration of mouse preference for warmth or access to a nest. PLoS ONE 7 (3): e32799 doi: 10.1371/journal.pone.0032799.

UFAW-SAWI Fund continues to support developments in dairy cattle welfare in Israel

The UFAW-SAWI fund promotes animal welfare in Israel. The most recent award was to Roi Mandel to complete a PhD at the Koret School of Veterinary Medicine, Hebrew University, under the supervision of Dr Eyal Klement in Israel and Professor Christine Nicol and Dr Becky Whay at Bristol University.

Roi's project is looking at new ways to measure the welfare of dairy cows. Specifically, Roi is investigating whether cows abandon so-called 'luxury' behaviours when they are under stress. Luxury behaviours are those which are not essential but which the animals are presumed to enjoy. One example is brushing; cows enjoy using an automated brushing device which they can activate themselves. Roi has developed a system which monitors each cow's usage of the automated brush by detecting ID tags worn on their necks. If cows become stressed or ill they may not use the automated brush, and brush usage may therefore be a simple way to monitor the health and welfare of dairy cows. If successful, the project will provide a practical method for monitoring cow welfare as well as promoting the routine provision of environmental enrichment in the form of the automated brushing devices.

Roi has also been undertaking teaching and outreach activities in Israel and is becoming an excellent advocate for animal welfare science in Israel and beyond.



3Rs liaison group studentship: Reducing the use of animals for testing new TB vaccine candidates

UFAW's 3Rs Liaison group studentship funds innovative research in any of the '3Rs' – replacement, reduction or refinement in the use of animals in scientific research. Current student Rachel Tanner is completing her doctoral research at Oxford University where she has been developing novel ways to test new TB vaccines which do not require the use of animals. Since TB vaccines normally need to be tested on rodents this project could potentially significantly reduce the number of animals used for such work as well as offering new hope in the search for better ways to prevent a disease which kills more than a million people every year.



In 2007, the prevalence of TB per 100,000 people was highest in sub-Saharan Africa, and was also relatively high in Asia (World Health Organisation 2009).

Research and project awards

Throughout the year UFAW supported many projects that addressed animal welfare problems. A small selection is described below.

Is variety the spice of life for cows?

Cows are typically fed a monotonous diet, but would they prefer to eat a variety of food, like most humans? Could varying cows' diet enrich their lives and reduce boredom? UFAW has recently supported research by Dr Rebecca Meagher at the University of British Columbia in Vancouver which aims to answer these questions. The study will test whether cows are motivated to work for access to different types of food when given the choice between a varied diet for which they have to work to gain access and their conventional diet which is freely available. If cows choose the varied diet even when they have to work to access it this will strongly suggest that they enjoy variety.

If Rebecca's experiment does show that cows prefer variety in their diets it could be simple to provide different types of food to commercial dairy herds. The research could also indicate whether cows prefer more variety in their lives in general.



UFAW-funded research reveals corneal ulceration in dogs is related to facial conformation

UFAW recently funded newly-published research by Rowena Packer and her colleagues at the Royal Veterinary College which showed that the prevalence of corneal ulceration in dogs is related to facial conformation. Corneal ulceration is a painful condition which can potentially lead to blindness.

Small dogs such as the Pug, French bulldog, Bulldog, Shih Tzu and Pekingese are more prone to corneal ulceration. In particular, dogs with facial features including wider eyes, shorter muzzles and a wrinkle over their noses are at the highest risk of developing the condition. Animals with brachycephalic (short-muzzled) facial features were 20 times more likely to develop the condition. Understanding the causes of this condition and indicators of which animals are likely to suffer from it allows owners to select dogs which are more likely to be healthy and allows breeders to breed from unaffected dogs, reducing the prevalence of the condition in the dog population over time.
Reference: <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0123827>

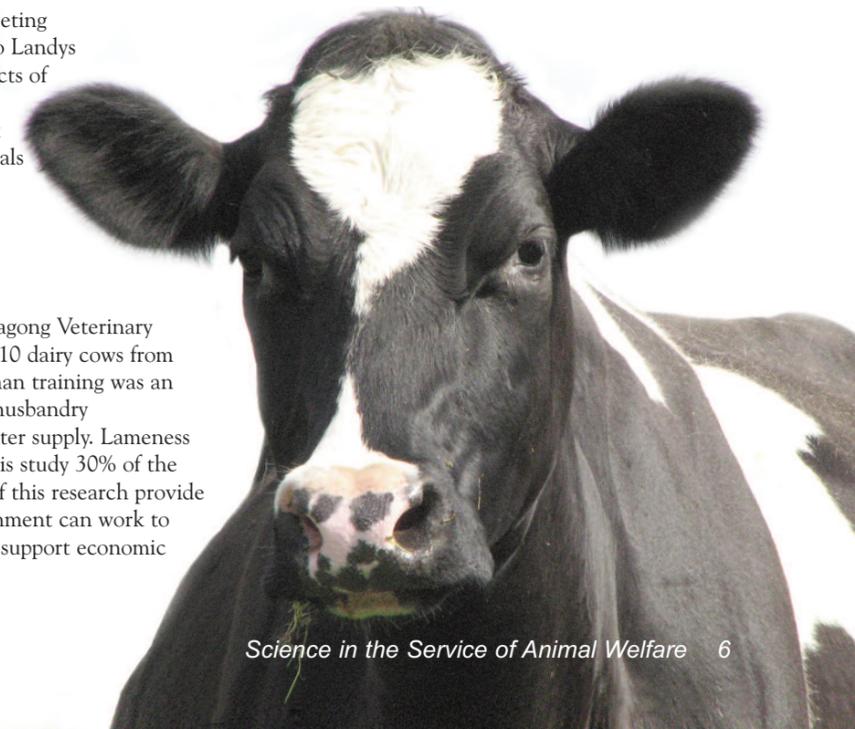


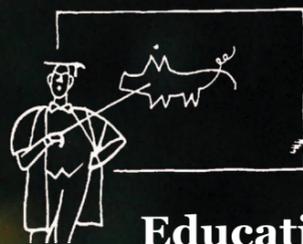
Latin American Lab Animal Welfare Meeting

UFAW provided financial support for an international meeting on lab animal welfare held in Cuba in July 2015. Dr Mario Landys Chovel organised the meeting which discussed many aspects of the 3Rs (Replacement, Reduction and Refinement) principles originated by Professor William Russell and Rex Burch, which are designed to minimise the harms to animals used in medical research. www.colamacuba.com/

Survey of the welfare of dairy cattle in Bangladesh

UFAW funded a study by Dr Rashedul Alam of the Chittagong Veterinary and Animal Sciences University in which he surveyed 1,110 dairy cows from 36 farms in Bangladesh. The results indicated that stockman training was an issue, and that improvements are needed in housing and husbandry provisions, including ventilation, drainage systems and water supply. Lameness is a common but serious problem in dairy cattle, and in this study 30% of the cattle had hoof lesions and 12% were lame. The results of this research provide a baseline from which the farmers and Bangladesh Government can work to make changes that improve the welfare of dairy cows and support economic and sustainable development.





Education

Lack of information about, and poor understanding of animals' needs, and the inability to detect and evaluate both negative and positive aspects of welfare – pain and pleasure – are at the root of many animal welfare problems.

UFAW promotes education in animal welfare science, largely at university and college level, to help address these difficulties – helping to teach those who will become the teachers in the future. Ways that UFAW does this include:

- Publication of the journal *Animal Welfare*
- Publication of key texts on animal welfare (eg The UFAW Handbook on the Care and Management of Laboratory and Other Research Animals, and the UFAW/Wiley-Blackwell Animal Welfare Series)
- Running workshops and symposia
- Lecturing at universities and colleges
- Running the Animal Welfare Student Scholarship scheme to enable students to develop their interest in animal welfare science
- Running the Research Training Scholarship scheme to provide training in animal welfare research
- Providing financial support for other educational initiatives

Some examples of the educational work undertaken or supported by UFAW are outlined overleaf.

Animal Populations – World Resources and Animal Welfare UFAW International Animal Welfare Science Symposium Zagreb, Croatia 14-15th July 2015

As demand on the world's resources becomes ever greater, what repercussions does a growing population and diminishing resources have for animal welfare?

UFAW welcomed delegates from 28 countries to Zagreb for a two-day symposium which featured presentations on this subject by scientists and ethicists from around the world.

Professor David Fraser, University of British Columbia and UFAW Medal winner in 2014, opened the symposium with a presentation on 'Cars, cats, climate change and other neglected problems of animal welfare', bringing the concepts of animal welfare and conservation together in a unified ethical model. The symposium then went on to consider, amongst a diverse range of issues, the humane management of wild populations, the establishment of specific evidence based indicators for monitoring and evaluating dog population management interventions, and a model for determining the success of interventions in cats, the issue of quantity of life and whether it is better to live long, to live well or not at all, and new approaches for better managing farm livestock production in a sustainable way. These and the other talks and posters stimulated much discussion and debate.

We would like to thank all those who contributed to the symposium, in particular Dr Mario Ostović of the Faculty of Veterinary Medicine of the University of Zagreb who co-organised the event with UFAW.



Genetic health and welfare of companion animals

Many companion animals suffer from genetic disorders which can affect their health and welfare. Understanding these conditions and how they can be avoided can enable potential owners to choose healthier animals, and be of immense benefit to animal health and welfare. Some years ago, UFAW initiated an online web database to provide information so that prospective owners could find out more about the risks associated with a particular breed and so avoid purchasing offspring of animals that carry these disorders. In time, and if enough people make informed choices, then the incidence of genetically influenced diseases should fall in the companion animal populations. This year UFAW has funded a position taken up by Dr Emma Buckland who will be working with Dr David Brodbelt's team at The Royal Veterinary College to further develop the database, increasing its coverage and value.

Welfare of captive elephants

UFAW funded Helen Telkanranta to travel to Nepal and India to establish links aimed at disseminating information to the users of captive elephants which could significantly improve their welfare. Throughout South and Southeast Asia captive elephants are often trained using traditional methods based on punishment of undesired behaviours. A more humane approach could be to positively reward desired behaviours (with treats for instance) rather than to punish undesired ones. Helen aims to promote humane approaches like this to those involved in elephant care and its regulation.

To further her aims Helen met with state officials, non-governmental organisations and scientists in both India and Nepal to discuss how best to promote science-based humane training methods for elephants in the region. Helen also presented a talk entitled 'Facilitating change in public policy on training and management of captive elephants' at the Minding Animals conference in New Delhi which won the best presentation award at the conference.

Helen was pleased to find a great deal of willingness amongst stakeholders from government to the individual Mahouts who handle elephants to learn more about positive reinforcement training and other humane methods for managing captive elephants and is hopeful that her trip will have benefited many elephants. The contacts made will hopefully contribute to exciting future developments in elephant welfare in the region.



Training by elephant experts in Chitwan, Nepal.
(photo: Helen Telkanranta)

UFAW Animal Welfare Student Scholarships

Awarded annually, the UFAW Animal Welfare Student Scholarships are open to students at universities and colleges in the UK, and to overseas students studying at institutions that are part of the UFAW LINK scheme. The aim of the scholarships is to enable students to pursue their interests in animal welfare science by providing opportunities to undertake research in this field. Congratulations to the following students who have recently been awarded an Animal Welfare Student Scholarship, and join the 300+ others who have been supported with a scholarship since the scheme's inception in 1983.

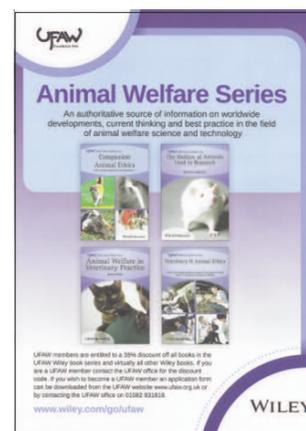
- Jessica Anderson (Western University of Health Sciences) 'Assessment of non-contact infrared thermometer measurement sites in birds', under the supervision of Dr Jose Peralta, Western University of Health Sciences, USA
- Harry Appleby (Writtle College) 'Evaluation of oestrone sulphate as a pre-hatch indicator of sex in ISA Warren poultry', under the supervision of Dr Angela Murphy-Thomas, Writtle College, UK
- Holly Asquith-Barnes (The Royal Veterinary College) 'Assessing the effectiveness of thermal imaging in the identification of arthritic conditions in non-human primates - A tool for improving welfare', under the supervision of Dr Troy Gibson, The Royal Veterinary College, UK
- Alice Barrett (The Royal Veterinary College) 'Effect of visitor number and noise level on the behaviour of zoo-housed Sulawesi crested macaques (*Macaca nigra*)' under the supervision of Dr Charlotte Burn, The Royal Veterinary College, UK
- Carley Betts (University of Bristol) 'Do hens prefer signalled or unsignalled food rewards?' under the supervision of Dr Liz Paul, University of Bristol, UK
- Harriet Davies (University of Cambridge) 'Developing methods to assess positive emotions in cattle' under the supervision of Dr Gareth Pearce, University of Cambridge, UK
- Jonathon Elgie (University of Glasgow) 'An investigation into the methods available for the determination of foetal age', under the supervision of Ms Yusta Noelia, University of Glasgow, UK
- Jorge Ferreira (University of Porto) 'Anaesthetic aversion in zebrafish' under the supervision of Dr Ana Maria Valentim, University of Porto, Portugal
- Edward Fullick (The Royal Veterinary College) 'The incidence of lead shot in carcasses of game birds and the impact this has on their welfare', under the supervision of Dr Troy Gibson The Royal Veterinary College, UK
- Eleanor Greenway (Bangor University) 'Investigation in food preference and welfare of captive Thornback Rays', under the supervision of Dr Gavan Cooke, Bangor University, UK
- Daniela Haager (University of Natural Resources and Life Science) 'Validation of hock lesions as a welfare indicator in dairy cows - A macroscopic, thermographic and histological study', under the supervision of Prof Christoph Winckler, University of Natural Resources and Life Science, Austria
- Sammy Kay (University of Lincoln) 'Development of bTB assay for complex biological samples' under the supervision of Professor Jonathan Cooper, University of Lincoln, UK
- Florian Mayer (University of Natural Resources and Life Science) 'Behavioural and physiological reaction of sows to temporal crating prior to or after parturition', under the supervision of Dr Christine Leeb, University of Natural Resources and Life Sciences, Austria
- Alison McGann (University of Glasgow) 'A pilot study to develop behavioural monitoring protocols for post-partum dairy heifers and neonatal calves on a commercial farm', under the supervision of Miss Nicola Gladden, University of Glasgow, UK

- Hayley Reeve (University of St Andrews) 'Do rats have empathy?' under the supervision of Dr Eric Bowman, University of St Andrews, UK
- Helena Stokes (The Royal Veterinary College) 'Nocturnal behaviour in orphan juvenile Asian elephants (*Elephas maximus*) in a rehabilitation centre in Sri Lanka', under the supervision of Dr Ayona Silva-Fletcher, The Royal Veterinary College, UK and Dr Vijitha Perera, Department of Wildlife, Elephant Transit Home, Sri Lanka
- Chantal Villeneuve (The Royal Veterinary College) 'Do domestic chickens show inequity aversion?' under the supervision of Dr Siobhan Abeyesinghe, The Royal Veterinary College, UK
- Jack Wootton (University of Chester) 'Reducing negative effects of tank surface impacts in captive male guppies (*Poecilia reticulata*)', under the supervision of Dr Charlotte Hosie, University of Chester, UK.

All of these scholars are invited to present the findings of their studies at an annual meeting. This year's UFAW Animal Welfare Student Scholarship meeting will take place at Writtle College, Chelmsford, Essex on Wednesday 16th December 2015. Anyone interested in attending should contact the Development Officer, Dr Stephen Wickens (email:wickens@ufaw.org.uk) for further details. In addition to individuals, attendance by organised student groups in support of their studies is welcomed (space permitting).

The UFAW Wiley-Blackwell Animal Welfare Series

This book series covers a wide range of animal welfare issues and species and is a valuable resource for professionals and students of animal welfare science. A new title, 'Companion Animal Ethics' by Peter Sandøe, Sandra Corr and Claire Palmer, is in press and will be available in November 2015, and other titles are also nearing completion. If you have an idea for a book in this series please let us know.



Details of all the books in the series are available at <http://www.ufaw.org.uk>. UFAW members are entitled to a 35% discount on all books in the UFAW Wiley book series and off virtually all other Wiley books. If you would like to take advantage of this, please contact the UFAW offices.

LASA/ UFAW 3Rs Section Meeting on the welfare of animals with special needs

On the 24th September, UFAW held a joint meeting with the Laboratory Animal Science Association (LASA) on the Refinement of Husbandry and Procedures for Animals with Special Needs. The meeting was attended by veterinarians, animal care staff scientists and regulators involved in the use of animals in research. The programme provided a CPD opportunity for those attending to update themselves on ways to improve the welfare of animals following procedures, surgery or because of age or genetic factors.

The UFAW Journal Animal Welfare

The production of the journal Animal Welfare is a major UFAW activity and is perhaps one of the most effective ways that UFAW disseminates animal welfare information around the world. The journal is peer-reviewed and highly respected; and it is pleasing that submissions to it continue to increase, reflecting the growth of animal welfare science around the world. Access to the journal is subscription based, but UFAW subsidises its production and has taken steps to improve access to the journal by making it freely available to qualifying not-for-profit organisations based in developing countries throughout the world through the HINARE (a WHO scheme), OARE (Online Access to Research in the Environment) scheme led by the United Nations Environment Programme and AGORA (Access to Global Online Resources in Agriculture), set up by the Food and Agriculture Organization of the UN.

Production and publication of the journal depends on the efforts of many, to all of whom, and especially the Section Editors (Jann Hau, Denmark; Peter Sandøe, Denmark; Katherine Houpt, USA; Bas Rodenburg, The Netherlands; Christine Nicol, UK; Yolande Sneddon, Canada; Don Lay, USA; Dan Weary, Canada; Kate Littin, New Zealand; Victoria Braithwaite, USA; Christoph Schwitzer, UK; Fay Clark, UK; Xavier Manteca, Spain and Isabelle Veissier, France) and the referees, we are very grateful.



Helping to promote animal welfare in developing countries

One of the important factors in the development of animal welfare science around the world is the growing part it plays in the teaching of veterinary medicine and ethics. Animal welfare has in turn become an integral part of veterinary practice. Access to authoritative and up-to-date information is key to these developments, and in many parts of the world this can be a problem, largely one of cost.

UFAW has now made contact with a number of veterinary schools in African countries and has provided them, free-of-charge, books from the UFAW Wiley-Blackwell Animal Welfare Series. We believe this will help make a significant and positive impact on animal welfare science and its practical implementation in these countries.

Scientific expertise and opinions

An important UFAW role is to share its expertise in animal welfare to help in the drafting of legislation and guidance concerning the treatment of animals. Over the previous year UFAW scientific staff have participated in consultations by the Home Office's Animals in Science Regulation Unit (ASRU) on new guidance on the rehoming of animals after use in research and the use of wild-caught animals for scientific purposes.

Senior Scientific Programme Manager, Dr Huw Golledge, is a member of the UK Animals in Science Committee (ASC), the body which advises the Home Office on the use of animals for scientific purposes. Over the past year the ASC has produced opinions on numerous issues concerning the use of animals in research such as the cumulative suffering of animals used in neuroscience research and new codes of practice for the care and housing of animals in laboratories.

UFAW's scientific staff also serve on ethics committees for external organisations and are regularly asked to give presentations on their areas of expertise in animal welfare. Over the past year staff have spoken at international meetings including: Lab Animal Welfare in China; American Veterinary Medical Association Humane Endings Meeting, Chicago; World Congress on Alternatives and Animal Use in Research, Prague; Revisiting Refinement in Care and Use of Laboratory Rodents, Milan.

The UFAW LINK Scheme

The UFAW LINK scheme is an initiative that seeks to develop and support a network of named individuals at universities and colleges in the UK and overseas to help with promoting UFAW's objectives at their establishments and to raise the charity's profile. These LINKs, which can now be found in 70 institutions, are asked to disseminate information on UFAW and our activities, meetings, grants and awards and can seek support for animal welfare science related activities. Some of the recent activities supported via the LINK scheme are described below.

A full list of LINK institutions and the individuals representing each one is available on the UFAW website.

Anyone who is interested in finding out more about the LINK scheme or becoming part of it should contact Dr Stephen Wickens (wickens@ufaw.org.uk).

Belgium

On 5th February 2015, the Ethical Committees at Ghent University and Institute for Agricultural and Fisheries Research (ILVO) organised a day of lectures on the animal behaviour and welfare needs of species commonly used in research, for those involved in the work of these animal welfare bodies.



Professor Dr Katleen Hermans delivers a lecture on rabbits and guinea-pigs.

(Professor Dr Katleen Hermans), and Mongolian gerbils (Professor Dr Christel Moons).

Turkey

On 23rd March 2015, international poultry scientist Mr Arnold Elson from the Agricultural Development Advisory Service (ADAS) gave a talk at Ege University Animal Science Department on 'Poultry welfare in intensive and extensive



Mr Arnold Elson, ADAS, with students and staff at Ege University.

production systems'.

Mr Elson reviewed health issues of concern in different broiler production systems and explored differences in mortality rates between the layer production systems of enriched cages, aviary and barns, free range, veranda systems, and organic production. The meeting was well attended by undergraduate and graduate students and staff from Ege.

UK

On Friday 27th March, Moulton College hosted the 10th Student Animal Welfare Conference, supported by UFAW LINK funding. This event was attended by 150 final year animal and equine degree students from Moulton, Writtle, Hartpury and Brooksby Melton Colleges. Invited speaker Dr Peter Kettlewell from the Scottish Rural College (SRUC) spoke about 'Animal welfare: an engineer's perspective.' Selected students from all four colleges presented their dissertation work on topics from enclosure design to laboratory analysis of forage, on a diverse range of animals including tropical fish, horses and rhinos.



Aline Bouquet, Writtle College, receives a prize for best presentation at the Conference from Dr Kettlewell.

Uganda

LINK support at Makerere University has enabled the formation of an active animal welfare science club consisting of students from the College of Veterinary Medicine, Animal Resources and Biosecurity and the College of Agriculture and Environmental Sciences. The most recent initiative that UFAW has supported is an outreach event in March to a local secondary school.



Presentation to school students by the animal welfare science club at Makerere University.

Members of the club, including Dr Sylvia Nalubwama (Makerere LINK), presented talks to over a hundred pupils and their teachers on 'the basics in animal welfare'.

Canada

With the support of the LINK scheme, Dr Jeff Rushen attended the Campbell Centre for the Study of Animal Welfare's (CCSAW) annual Research Symposium in March 2015 at the University of Guelph. Dr Rushen outlined what science has taught about best practices for handling dairy cattle and about exploring positive emotions in animals by studying play in young calves.

The symposium also included other talks on a range of topics from students at Guelph and elsewhere on the welfare of poultry, companion and other animals.

Legacies and donations

UFAW's activities, highlighted in this annual report, are dependent on the generosity and kindness of the charity's members and supporters – to whom we are most grateful.

The annual membership subscription is £30, or £10 for students. The value of donations made to the charity is maximised when given through the Gift Aid Scheme. Details of this and advice on how to make provision for the charity in a Will can be obtained from the Secretary and are also available on the website (www.ufaw.org.uk).

You can now also donate to UFAW by text

Text 'UFAW15 £5' to 70070. You can choose the amount to donate in pounds from £1 to £10.

Can you help?



Annual General Meeting 2014

The AGM was held at the Old School, Brewhouse Hill, Wheathampstead. As in previous years this was held in conjunction with the General Meeting of the Humane Slaughter Association and Council of Justice to Animals (HSA & CJA). The members of UFAW Council also act as Trustees for the HSA. Joint meetings are held to save time and money.

The notice convening the meeting had been sent to all subscribers and was taken as read. The meeting agreed the Minutes of the AGM of 2013 and resolved to receive the Accounts and Auditor's Report for the year ended 31st March 2014. Questions on the Report of the year's work were answered by the officials present and the meeting resolved that the Report and Accounts be received.

It was resolved that Anthony Joseph & Co, Registered Auditors, be appointed as auditors to UFAW and its associated Trusts and their remuneration should be fixed by Council.

Ms C McCann, Dr L Brown and Professor A Nolan stood down under the rules regarding rotation. Ms C McCann and Professor A Nolan offered themselves for re-election. One new candidate was proposed, Dr B North, Managing Director of PHARMAQ Ltd. Ms C McCann and Professor A Nolan were re-elected, and Dr B North was elected. The nomination had the full support of Council.

Notice of Annual General Meeting 2015

The Annual General Meeting of the Universities Federation for Animal Welfare will be held at 12.30pm on Wednesday 14th October 2015 at The Old School, Brewhouse Hill, Wheathampstead. The formal notice and agenda have been sent to all members and are available from the Secretary at the registered office.

Finance and accounts

The summarised accounts set out overleaf have been extracted from the full accounts and have been prepared in accordance with the Companies Act 2006, which were approved by the Directors/Council and signed on its behalf on 22nd July 2015.

The full accounts have been audited and the auditors' opinion was without qualification. The accounts will be filed with the Companies Registry and the Charity Commission after the Annual General Meeting on 14th October 2015.

Full accounts, and the audit report can be obtained from the Company Secretary, The Old School, Brewhouse Hill, Wheathampstead, Herts AL4 8AN.

Finance and Accounts

Summary of Financial Activity year ended 31st March 2015

	2014/15 £	2013/14 £
Incoming resources:		
Voluntary income		
Subscriptions & donations	28,957	44,141
Appeals	2,387	1,637
Legacies	402,155	340,855
	<u>433,499</u>	<u>386,633</u>
Charitable activities		
Publications	74,930	83,925
Royalties & lecture fees	6,935	5,057
Symposium	4,496	24,408
Interest & Recoveries	54	5
	<u>86,416</u>	<u>113,395</u>
Investment income		
Interest bearing deposits	1,676	3,660
Securities	172,065	204,978
	<u>173,741</u>	<u>208,638</u>
Total incoming resources	<u>693,655</u>	<u>708,666</u>
Resources expended:		
Costs of generating funds	81,435	75,207
Charitable activities	362,810	386,226
Governance costs	5,597	4,172
Other resources expended	140,306	143,029
	<u>590,148</u>	<u>608,634</u>
Total resources expended	<u>590,148</u>	<u>608,634</u>
Net (outgoing)/incoming resources for the year	<u>103,507</u>	<u>100,032</u>
Other recognised gains and losses:		
Net realised gain/(losses) on investments	259,835	183,479
Unrealised loss on Revaluation of Freehold Property	-	-
	<u>259,835</u>	<u>183,479</u>
Net income/expenditure for the year	<u>363,342</u>	<u>283,511</u>
Net unrealised gain/(losses) on Market Value of investments	275,462	(208,373)
	<u>275,462</u>	<u>(208,373)</u>
Net movement in funds		
Balance brought forward	638,804	75,138
	<u>6,968,684</u>	<u>6,893,546</u>
Balance carried forward	<u>7,607,488</u>	<u>6,968,684</u>

BALANCE SHEET as at 31st March 2015

	2014/15 £	2013/14 £
Fixed assets:		
Tangible fixed assets	391,151	397,269
Investments	6,805,801	6,263,060
	<u>7,196,952</u>	<u>6,660,329</u>
Current assets:		
Debtors	33,523	28,736
Money Market & Deposit Account	589,397	449,044
Cash at bank & in hand	16,515	15,038
	<u>639,435</u>	<u>492,818</u>
Current liabilities:		
Creditors:		
Amounts falling due within one year	(191,106)	(119,189)
	<u>448,329</u>	<u>373,629</u>
Net current assets	<u>448,329</u>	<u>373,629</u>
Total assets less current liabilities	<u>7,645,281</u>	<u>7,033,958</u>
Creditors:		
Amounts falling due after more than one year	(37,793)	(65,274)
	<u>7,607,488</u>	<u>6,968,684</u>
Net assets	<u>7,607,488</u>	<u>6,968,684</u>
Funds:		
Unrestricted	7,058,429	6,442,831
Restricted	549,060	525,853
	<u>7,607,488</u>	<u>6,968,684</u>

The summarised accounts were approved by Council and signed on their behalf on 22nd July 2015

Professor R M Bennett BSc MSc PhD
Chairman

C L McCann BSc ACA
Hon Treasurer

Independent Auditors' Statement to the Council of the Universities Federation for Animal Welfare

We have examined the summarised financial statements that comprise the summary statement of financial activities and summary balance sheet.

Respective Responsibilities of the Council and Auditors

You are responsible as the Council for the preparation of the summarised financial statements. We have agreed to report to you our opinion on the summarised financial statements' consistency with the financial statements, on which we reported to you on 22nd July 2015.

Basis of Opinion

We have carried out the procedures we consider necessary to ascertain whether the summarised financial statements are consistent with the full financial statements from which they have been prepared.

Opinion

In our opinion the summarised financial statements are consistent with the full financial statements for the year ended 31st March 2015.

S Francis-Joseph FCCA, Senior Statutory Auditor, Anthony Joseph & Co Limited, Registered Auditors, Stevenage, 22nd July 2015.

Universities Federation for Animal Welfare

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Registered in England Charity No. 207996

Vice-Presidents:	Professor P H Holmes OBE BVMS PhD MRCVS I J Lean BSc PhD FRSB MRSB J H Pratt BVM&S DVSM FRCVS G D Sales BSc PhD AKC MRSB DipTCDHE Professor R S Anderson BVMS PhD MRCVS Professor P M Biggs CBE DSc DVM FRCPath FRSB FRS FRCVS B R Howard BVMS PhD MRCVS
Council (who are the Directors of the Limited Company)	
Chairman:	L A Brown MBE BVSc BA PhD FSB MBA FRCVS* (to Oct 2014) Professor R M Bennett BSc MSc PhD* [†] (from Oct 2014)
Vice-Chairman:	Professor R M Bennett BSc MSc PhD [†] (to Oct 2014) Professor A Nolan OBE MVB DipECVA DipECVPT DVA MRCVS [†] (from Oct 2014)
Honorary Treasurer:	C L McCann BSc ACA* [†]
Members	Professor J Bradshaw BA PhD * B Cooper VN Cert DTM Professor N Gregory BSc PhD B North MSc PhD MBA (from Oct 2014) Professor F Ohi PhD [†] D Pritchard BSc BVetMed MPH MRCVS [†] M Radford OBE LLB D R Sargan MA PhD* [†] A G Simmons BVMS MSc MRCVS
	*Member of the Grant Panel [†] Member of the Finance Panel [†] Member of the Fundraising Panel

Staff

Chief Executive & Scientific Director:	Robert C Hubrecht OBE BSc PhD FRSB
Senior Scientific Programme Manager:	Huw Golledge BSc PhD (from Sept 2014)
Scientific Officer:	Elizabeth Carter BSc MSc
Development Officer:	Stephen M Wickens BSc PhD
Editorial Assistant:	Steven Weddell BSc BVSc MRCVS HND
Public Relations & Fundraising Officer:	Brian D Pemberton BA MA
Secretary:	Jane Moorman
Office Staff:	Samantha Griffin Wendy L Goodwin

Registered Auditors: Anthony Joseph & Co Limited, Suite G34, Business & Technology Centre, Bessemer Drive, Stevenage, Herts SG1 2DX, UK

Bankers: HSBC Bank plc, 171 Darkes Lane, Potters Bar, Herts EN6 1BU, UK
Barclays Bank plc, 33 Darkes Lane, Potters Bar, Herts EN6 1BA, UK
Santander UK plc, Bridle Road, Bootle L30 4GB, UK

Bank of America, Westwood Village Branch, PO Box 37176, San Francisco, CA 94137-0001, USA

Solicitors: Withers LLP, 16 Old Bailey, London, EC4M 7EG, UK
Investment Advisers: Smith & Williamson Investment Managers, 25 Moorgate, London EC2V 5NS, UK